THE MARINE REVIEW

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## INVESTIGATING THE VALENCIA WRECK.

The government will undoubtedly make a searching inquiry into the wreck of the steamer Valencia with especial reference to the conduct of the masters of the Topeka and Queen which were sent to assist in the work of rescue. The thing that has a bad look about this wreck is the proportion of members of crew to passengers saved. The Chamber of Commerce at Seattle adopted the following resolution in calling upon President Roosevelt to act in the matter:

"Whereas, It was known in Seattle on Tuesday noon that the Valencia had been wrecked on her voyage from San Francisco to Seattle; and

"Whereas, The steamship Queen was despatched to the scene of the wreck, arriving off Cape Beale on Wednesday morning; and

"Whereas, The steamship Queen was, according to the published statement of her master, within three-quarters of a mile of the wreck of the Valencia, and those on board the steamer knew that there were from fifty to sixty people still clinging to the wreck of the Valencia; and

"Whereas, Said steamship Queen, reportedly under orders of the agent of the Pacific Coast Steamship Co., in order to avoid loss of time in carrying her freight and passengers to San Francisco, upon the arrival of the steamship Topeka, abandoned said steamship Valencia; and

"Whereas, Neither the said steamship Queen nor the steamship Topeka sent any assistance whatever to the Valencia, claiming that the sea and the weather were so rough as to endanger the lives of would-be rescuers, while a life-raft from the Valencia, much overladen, was able with unskilled hands to reach the Topeka; and

"Whereas, It is reported that the lifeboats of the Valencia were ill-equipped and had defective plugs and oar locks, rendering them unsafe; and

"Whereas, it is charged by the passengers and survivors of said wreck that there had been no fire drills, or drills of any sort by the crew of the Valencia on this voyage, and that said crew was unskilled and there was lack of discipline on the steamship Valencia; and

"Whereas, Among the number of those rescued the crew of the Valencia greatly predominates, and the story of the wreck does not recount the rescue of a single woman or child; therefore be it

"Resolved, By the Chamber of Commerce of the city of Seattle, that the national government be petitioned to cause an investigation by qualified officers sent from Washington, into the causes of the wreck of the Valencia and the action of her officers, the officers of the steamships Queen and Topeka and the officers of the Pacific Coast Steamship Company, to the end that if their action was all that could be demanded of men engaged in their respective duties, they may be relieved of the criticism and odium that now in the minds of the community attach to their behavior."

## MR. WALLACE'S TESTIMONY.

Quite interesting has been the testimony of Mr. John F. Wallace, formerly chief engineer of the Panama Canal, before the senate on interoceanic canals during the past week. The first part of Mr. Wallace's testimony dealt with his relations to Wm. Nelson Cromwell of New York. Mr. Cromwell's only official relation to the canal is as director and counsel of the Panama Railroad.

Mr. Wallace's chief reason for resigning his position was that he "was made jointly responsible with Mr. Shonts and Mr. Magoon for work on the canal, while Mr. Shonts had a verbal agreement with the President that he should have a free hand in the management of all matters. I felt Mr. Shonts was not as well qualified as I was either as a business man or an administrator; and he was not an engineer. I thought I was to be director general of the canal work. I thought it better to sacrafice my ambitions regarding this work, which was to be the crowning event of my life, than remain to be humiliated, forced to disobey orders, or create friction."

After outlining his objections to Mr. Cromwell, Mr. Wallace said, in reply to an inquiry: "I thought about him as being the man who brought about the sale of the canal to the government; who brought about the revolution in Panama; who assisted the government of Panama in making its investments; who is carried on the diplomatic list of that government, and who is interested in public utilities on the isthmus. I felt that a man mixed up in so many things might have his mind perverted, and at some time he might give the wrong advice, and the result would be a scandal. All the interests in Panama look upon Cromwell as their friend. He is the principal stockholder in the Panama-American Company, which handles ice and electricity."

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The Clyde liner Cherokee which stranded on Brigantine Shoals on Jan. 12 has been successfully removed and taken to Cramp's ship yard for repairs. An irregular hole was found in the hull forward caused by pounding on the sand. There is another hole on the starboard side forward of the engine room and about 6 ft. above the water line which is causing the ship builders some speculation.

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Joseph Supple, Portland, Ore., is building a new steamer for the Kitsap County Transportation Co., Seattle, Wash., to be 135 ft. long, 22 ft. beam.

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## HANDLING COAL AT MILWAUKEE.

The Milwaukee Western Fuel Co. has just published a book descriptive of its modern electric coal handling plant at Milwaukee. The purpose in issuing the book was to acquaint coal dealers and consumers with the modern methods employed in expeditiously handling the immense cargoes of anthracite and bituminous coal which are now being carried from lower lake ports to the distributing docks at Milwaukee. In its description the company says:

"There are two great ends for which engineers have been striving in the design of modern coal handling apparatus for use on the great lakes: First, low cost of unloading, storage and reloading; Second, expedition in taking out the cargoes. In accomplishing these ends it is, of course, necessary to eliminate manual labor as far as possible, and each dock must be equipped with machinery specially adapted for it in order to procure the best results. The conditions obtaining at our Commerce street dock were unusal, and the new unloading bridges were consequently of unique and entirely new design and operation, constructed after a careful examination to utilize most economically the water and street frontages, and to handle the coal at the lowest possible cost. The dock has approximately 1,300 feet of water frontage, and extends back to the Commerce street line. Both of these boundaries are sharply curved, the water front being of about 500 feet radius, while on the Commerce street side the radius was about 1,000 ft. In order to allow the bridges to travel without delay around these curves from one end of the dock to the other, it was necessary to provide storage bridges of variable spans, as at no two points is the dock of like depth. This result was accomplished by mounting the street ends of the bridges on large V-shaped piers, the tops of which constitute loading hoppers. The centers of gravity of these loading hoppers are directly over the rail upon which the bridges travel, and the top corners are provided with center flanged track wheels which engage the bottom chord members of the bridges in such a manner as to allow the bridges to travel either toward the river or the street over the tops of the piers. The tops of the supports at both ends of the bridges are also provided with swivel frames to allow operation with the bridges extending at an angle with either the river or street. The coal is taken from the holds of the vessels by clam-shell buckets of two-ton capacity, and conveyed direct to the loading hoppers, where it is screened and spouted into box cars or into wagons for city delivery. Both cars and wagons may be loaded at the same time without interruption, as the hoppers are provided with special wagon chutes delivering over the tops of the highest box cars. If the coal is not required for immediate shipment, it is deposited on the dock, and is picked up by the clam-shell buckets when needed. The operation of hoisting the coal from the vessels, transporting to the loading hopper or depositing on the dock, is all done by one electrically driven engine, operated by one man, and at a rate of 120 to 130 tons per hour for each bridge. When the coal is nearly all out of the vessel, the remaining portion is scraped up to the centers of the hatches (where it can be reached by the clam-shell bucket), by large track scrapers which are drawn forward and back by electrically driven scraper engines, the controllers of which are mounted on stands and lowered to the between decks of the boat, allowing the operator to see and scrape out the last remaining part of the cargo.

"The entire equipment is of steel construction, and designed to reduce the cost of handling the coal to a minimum, special attention being given to the fact that in large storage piles fires are liable to occur and the immediate removal of the burning part of the pile is essential. All parts of the machinery are electrically driven, and in order to allow perfect flexibility, the traveling mechanisms of supporting piers are driven by separate motors, the controllers of which are placed side by side, and are operated simultaneously by the hoister. Supporting piers travel at the rate of 50 ft. per minute. Motor in street pier also operates a nigger head for moving cars. The entire plant is equipped with electric light, enabling it to be worked continuously day and night. The operation of the two bridges discharging a cargo of coal requires only the following: One oiler, two bridge operators, two scraper operators (in hold of vessels), two assistant scrapers (in hold of vessel); total, 7 men."

The company publishes the following interesting compilation of coal statistics of Milwaukee:

UNLOADED IN MILWAUKEE DURING 1905.

| | |
|---|---|
| Coal received in Milwaukee in 1905, over.... | 3,000,000 tons |
| Largest cargo ever received in Milwaukee, Steamship Augustus B. Wolvin..... | 10,569 tons |
| Smallest cargo received in recent years, Schooner City of Chicago (1905)..... | 550 tons |
| Cargoes between 9,000 and 10,000 tons..... | 1 |
| Cargoes between 8,000 and 9,000 tons..... | 3 |
| Cargoes between 7,000 and 8,000 tons..... | 21 |
| Cargoes between 6,000 and 7,000 tons..... | 53 |
| Cargoes between 5,000 and 6,000 tons..... | 36 |
| Cargoes between 4,000 and 5,000 tons..... | 65 |
| Cargoes between 3,000 and 4,000 tons..... | 217 |
| Cargoes between 2,000 and 3,000 tons..... | 352 |
| Cargoes between 1,000 and 2,000 tons..... | 113 |
| Cargoes less than 1,000 tons..... | 12 |
| Cargoes received in 1905..... | 873 |
| Average..... | 3,493 tons |

Superintendent Sumner I. Kimball of the life saving service recommended creating the retiring bill for the officers and men of that service and this bill has been unanimously agreed upon by the committee on commerce of the senate. The bill provides for a retiring board to be composed of the superintendent of the life saving district and officer of the revenue cutter service on duty and an assistant inspector of the life saving service and a medical officer from the marine hospital service. Upon retirement the bill provides that each member of the service shall have three-quarters pay.

The Chattanooga Packet Co., Chattanooga, Tenn., recently took about 100 of Chattanooga's leading citizens on a trip down the Tennessee river on their new steamer Chattanooga. The purpose of the trip was to further the interest of river navigation and in this it appears to have been quite successful. The Chattanooga is 175 ft. long, 33 ft. beam and 5 ft. deep.

The board of construction and repair of the navy department has recommended that when bids are solicited for the construction of the battleships Michigan and South Carolina the ship builders be requested to submit alternative bids for turbine machinery as well as reciprocating engines. The Michigan and South Carolina are of 16,000 tons displacement.

The United States Civil Service Commission announces an examination on March 14 to seek eligibles for the position of marine firemen, $540 per annum and rations, for the steamer General Batchelder of the quartermaster's department, Fort Morgan, Ala. The examination may be had by mail.

Crawford & Reid, Tacoma, Wash., have received an order from Moe Bros. of Seattle for a freight and passenger steamer 135 ft. long, 21 ft. beam and 9 ft. deep to cost $25,000.

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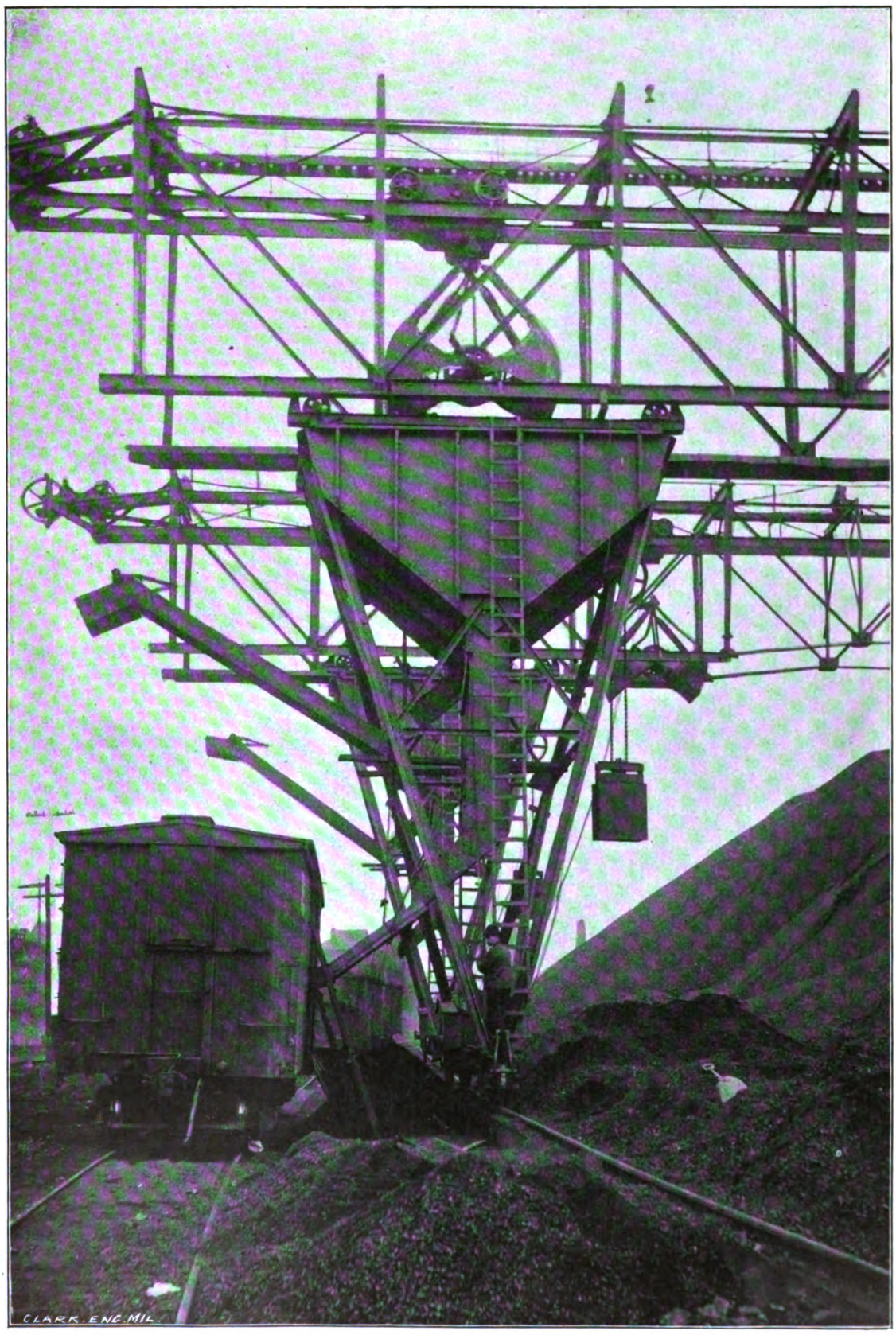
# HOW COAL IS HANDLED ON THE LAKES.




PIER AT COMMERCE STREET FRONT MILWAUKEE-WESTERN FUEL CO., SHOWING PART OF BRIDGE, CLAM SHELL, HOPPER AND CAR AND WAGON LOADING CHUTES.

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# HOW COAL IS HANDLED ON THE LAKES.

VIEW SHOWING ABILITY OF CLAM SHELL UNLOADING OPEN CARS.

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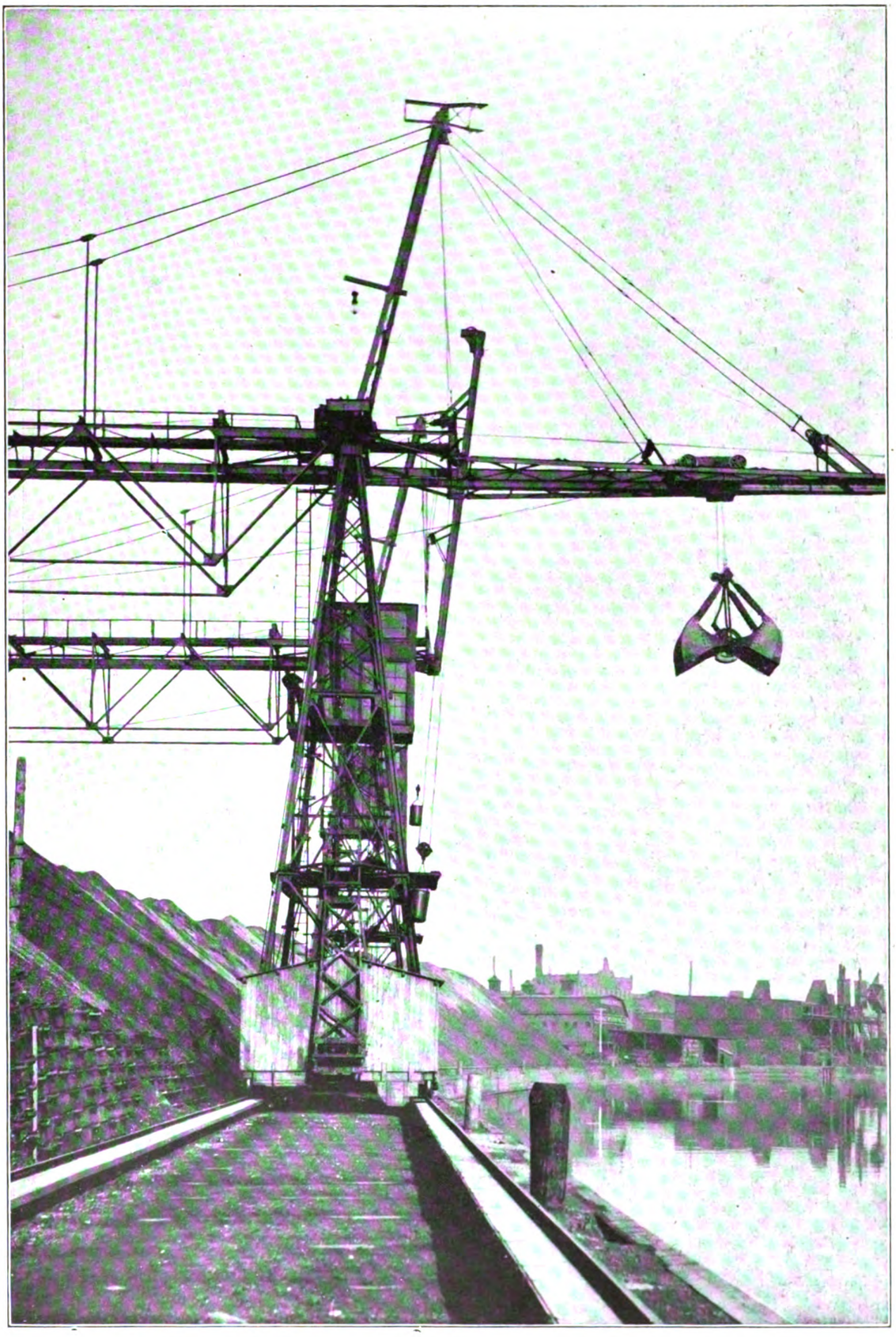
# HOW COAL IS HANDLED ON THE LAKES.



VIEW SHOWING OPERATOR'S CAB CONTAINING LEVER AND CONTROLLER, ALSO HOUSE CONTAINING DRUMS AND MOTORS.

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# HOW COAL IS HANDLED ON THE LAKES.

LOADING BOX CAR AND WAGON SIMULTANEOUSLY FROM THE SAME HOPPER.

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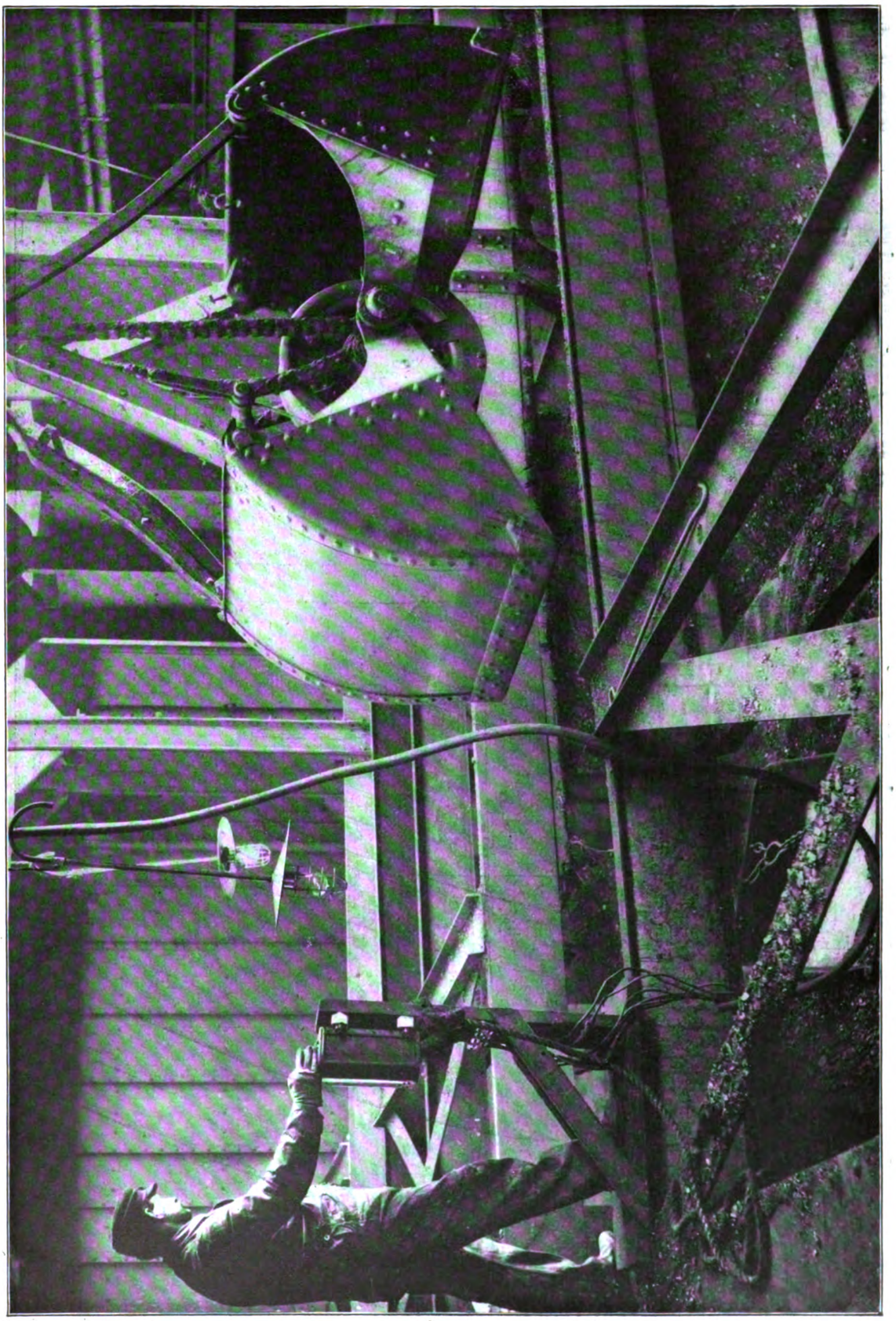
# HOW COAL IS HANDLED ON THE LAKES.



IN THE HOLD OF THE STEAMER J. M. JENKS. OPEN BUCKET DESCENDING FOR LOAD AND ELECTRIC POWER SCRAPER BRINGING COAL TO HATCH.

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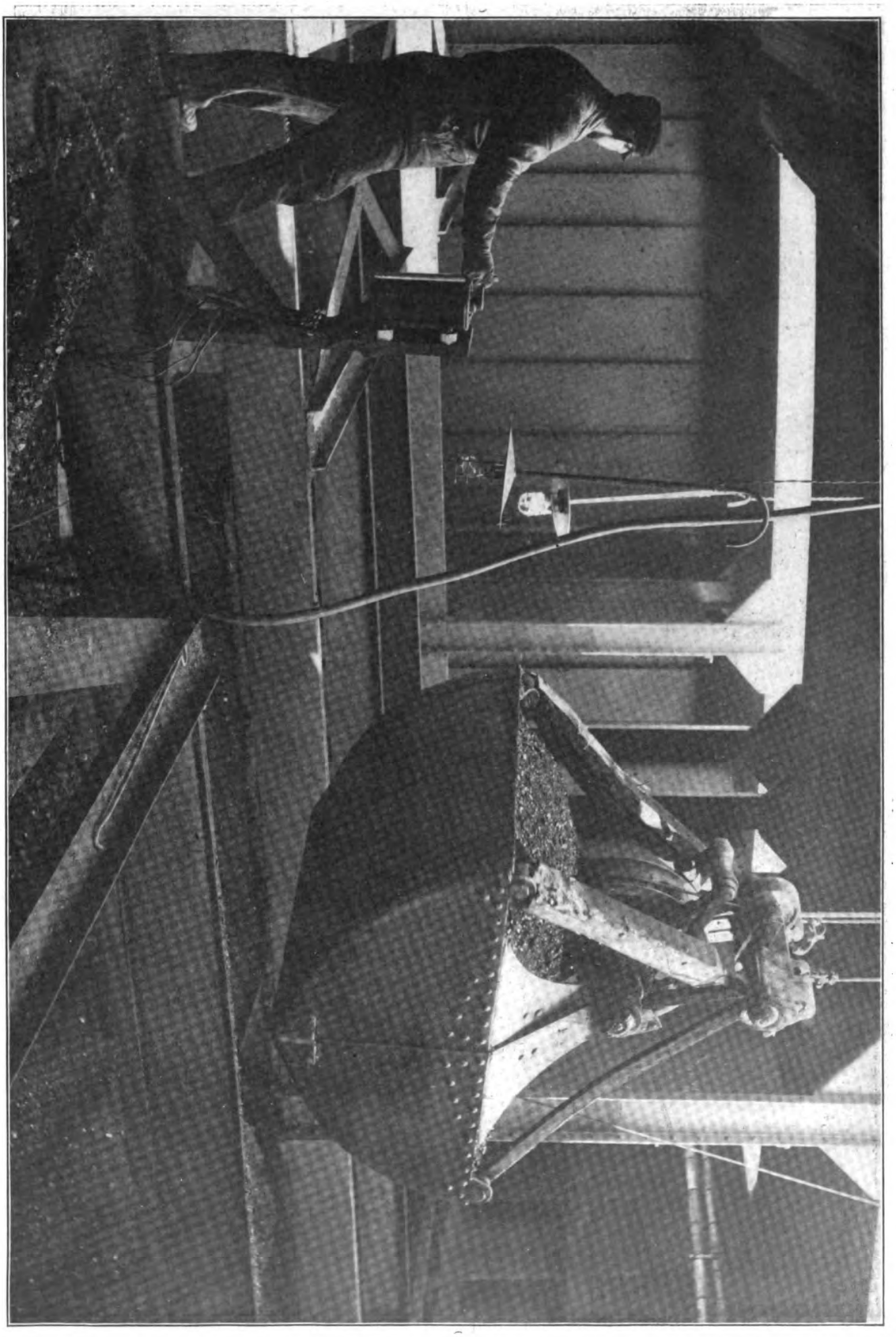

CLAM SHELL WITH LOAD OF OVER 2 TONS IN THE HOLD OF STEAMER J. M. JENKS.

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## THE SITUATION AT BUFFALO.

Buffalo, Feb. 13.—The rather rapid and unexpected development of the water coal industry by winter at various ports of Lake Erie creates a possibility in that line that it would be well to make the most of, on more accounts than one. The activity in Buffalo harbor this winter has never before been approached. Not only is the actual season much prolonged, the rush of mid season relieved, and rail shipments that are in connection assisted, but the claim of the laborers that they must have so much more in summer because they cannot work in winter is staved off.

This is a great center for the fishermen who operate through the ice, when there is any. The lower end of Lake Erie holds the ice as the upper end does not, so that there are fish caught in that way off this port when vessels may be moving from Cleveland to Detroit. But this winter has been a sad exception to the rule. The fisherman has stayed ashore and the industry of the fish-market man, who used always about now to be established on the beach at the foot of Michigan street, buying the surplus catch as it came in by dog sled, languishes.

So there would have been distress along the lake front this winter but for the work in progress in the regular vessel trade. Outside of the grain fleet to be unloaded at once, which was so large that it lasted over into this year, there was more than 8,000,000 bushels of mostly wheat and flaxseed laid up to be taken out sometime between the close of navigation and April 15th, which is always the limit of this sort of winter storage. There has been a steady stream of elevation from the first, the steamer Rogers, whose cargo of 351,000 bushels of wheat broke the record, being unloaded right away and loaded again with 10,000 tons of coal. About three-quarters of the grain is still to come out and there may have to be some hustling to get it all unloaded before the time limit, especially if the ice becomes troublesome, as it will soon in narrow passages if this weather continues.

As to the loading of coal it costs only 10 to 15 cents extra to carry it afloat, which is less than half the cost of stocking it and picking it up again. In the old days of wooden hulls it was not well to keep the fleet loaded all winter. It prevented the salting and otherwise taking the care of the vessels that they needed, but there is not much need of such care with the steel fleet. The plan here this winter was to unload them, do such repair work on them as was needed and then reload them with coal. There are already several that have been so handled.

It has always been more or less difficult to keep enough coal trains on the roads to furnish the coal needed by the vessels in flush shipping times. With a good demand the shipping agent is always complaining that he is short of coal and if there is any in stock here it is not considered as good as fresh-mined coal. So the loading of about 150,000 tons of coal here this winter already, with prospect of considerable more before the lake season opens, ought to relieve the shippers as well as help the coal handlers to employment, outside of the consideration, now very great, as to the chances of a strike of the coal miners.

Someone has conceived of the possible striking of the mates on the lakes at the same time that the coal miners struck, which would tie up a considerable amount of coal afloat where it could not be got at all and thus make it just so much harder to meet the shortage of coal produced by the strike of the miners, but this is a coincidence that is not likely to take place and the coal could be made available at very short notice after the strike was over, while a miners' strike always means a long wait for a supply of coal after it is declared off.

Spite of the anxiety of the vessel owner for a short season the seasons are always naturally too short. If they do run slack in midsummer it is on account of the size of the fleet or something of the sort. We are now paying out a lot of money here for the repairs of steel hulls that were cut through by ice last fall. If the season had been shortened considerably at the closing end it would have been a great saving to the trade as a whole, for what the vessels make at that time is always at the expense of the shipper or the insurance.

So it ought to be good economy to encourage the increase of work in port in winter that will facilitate the trade when once in motion again. It is expected that this port will continue all of its former activity during this winter, the present stoppage of coal loading being temporary.

JOHN CHAMBERLIN.

## THE LATE STEPHEN R. KIRBY.

Mr. Stephen R. Kirby, father of Frank E. Kirby of Detroit, F. A. Kirby of Wyandotte and Mrs. T. S. Darling of New York was identified with the commerce of the great lakes ever since the lakes may be said to have had a commercial existence. He spent six years in Cleveland, from 1850 to 1856, putting in his summers sailing and the winters at the ship yard of Peck & Masters. About the spring of 1857 he went to East Saginaw where he entered the employ of Jesse Hoyt who was a flour merchant at 19 South street, New York, and who owned the majority of the business portion of Saginaw. Mr. Kirby, as a general mechanical engineer for Mr. Hoyt, built a number of sailing vessels, also the steamer Magnet, which was afterwards owned and used for a number of years by the Home Insurance company, and stationed at Detroit; also the steamer Reindeer, which was sold to Detroit parties and used on Detroit river.

He also built at Saginaw the Mayflour mills, Bancroft house and all other structures belonging to Jesse Hoyt. He made the preliminary survey of the F. & P. M. railroad, at which time travelers had to stage it from Saginaw to Holly, and there board the Detroit & Milwaukee railroad when bound for Detroit. In the year 1865 he acted as engineer of construction of government steamers Fessenden and Sherman at Cleveland, Ohio, Peck & Kirby being the company organized for the express purpose of constructing these two vessels. In 1866 he went from Saginaw (his home) to Montana and built a 40 stamp gold quartz mill, also silver works for the Montana Mineral Land & Mining Co., Jesse Hoyt, president. Returning from Montana in 1867, he remained in Saginaw the winter of '67 and '68, after which he went to Lake Superior and built a copper mill, returning to Saginaw the fall of '68. During the winter of '68 and '69 he arranged to move to Detroit and assume charge of the mechanical details of Campbell, Owen & Co., ship builders, now the Detroit Ship Building Co. He resided at the old Michigan Exchange, remaining in this business until about the year 1872 or 1873, going from there to New York, where soon after he built the Erie elevator since the completion of which he has resided in New York.

Stephen R. Kirby's mechanical ability was not confined to any particular class of work. He could handle architecture, ship, engine and bridge building, mining, surveying, and astronomy. He was a first class draftsman, and one of the best mathematicians in the world. He, a few years ago, completed and patented a mechanical instrument whereby a sea captain could get his latitude and longitude without the use of the sun.

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## SENATOR GALLINGER'S GREAT WORK.

A bill which passes the senate so early and so successfully as has the bill of the merchant marine commission—a bill, moreover, which has the approval of the administration behind it—cannot easily be denied consideration and passage by the house of representatives. It is, therefore, a great parliamentary victory which has been won by Senator Gallinger, chairman of the merchant marine commission, in bringing his bill out of the senate, first of the important measures in the present congress. This is a great personal triumph for the skill and energy of the New Hampshire senator, the selection of whom as the head of the commission was a stroke of rare good fortune for the maritime interests of America. Senator Gallinger was familiar beyond most public men, with the needs of the merchant marine and present maritime conditions in this country. Though his state has but a short seacoast, twenty miles or more, this holds one of the historic seaports of this continent and maritime traditions are about as strong in central and southern New Hampshire as in any other New England state. Senator Gallinger has been a member of the committee on commerce, which has to deal with maritime affairs, so that when under his direction the merchant marine commission undertook its inquiry, the chairman had firmly in mind the main principles of the subject which the commission has been considering.

Besides his knowledge of the subject, his long experience as a public man and his skill as a parliamentary leader, Senator Gallinger has the important equipment of tact, courtesy and liberality to a degree notable in the public service.

The question of our shipping, and especially the question of subsidy has aroused such fierce antagonism in this country that these personal characteristics of the chairman of the merchant marine commission were sure to prove of very great importance.

From the very beginning, Senator Gallinger has held the work of the commission thoroughly in hand. It is well known in Cleveland that he and his colleagues have made a most industrious inquiry, traveling all over the United States and giving months of the most devoted kind of labor to their undertaking. Then there came the task of framing a bill based on complex technical details which should secure substantial agreement from the commission and win the approval of a majority of congress. Here again Senator Gallinger's rare tact and patience proved most fortunate and indispensable. Throughout the nearly two years of the life of the commission there was not the slightest friction among its membership, though the commission was made up almost evenly of senators and representatives of the two rival political parties. Indeed, so harmoniously did the commission proceed that the entire series of hearings at the Gulf and South Atlantic ports was conducted by democratic commissioners. And in the framing of the bill it was found that the commission was unanimous on the majority of the features of the proposed legislation—all approving the naval reserve idea, the ocean mail lines, and the increased tonnage taxation, and three of the four democratic members signing a minority report against only the subventions to cargo vessels.

No such close approach to absolute unanimity had ever before been reached in the stormy history of attempted shipping legislation in America. This was due very largely to the frank and kindly management of Chairman Gallinger, whose skill has now brought the shipping bill smoothly out of the deliberations of the senate.

It has been an arduous work for the New Hampshire senator, who was one of the busiest men in Washington with his important committee assignments before this new and formidable responsibility was laid upon his shoulders. But he has proved nobly equal to the test. He has done all that man could do to press the shipping legislation on to an accomplished fact. He has won a victory in the senate which of itself almost guarantees prompt victory in the house of representatives. The ship own-

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ers, the builders, the mechanics, the seamen and the manufacturers, merchants and farmers of America—all of our people interested in shipping and in trade—owe a vast debt of gratitude to Senator Gallinger.

### THE WISDOM OF THE JAPANESE.

The plans made by Japan for extending her commerce show that the militant spirit she displayed in the late war will be in evidence in more peaceful pursuits. Nothing is more remarkable about the Oriental Yankees than the quickness with which they grasp western ideas and apply them to their own conditions. Japan is situated to the Orient as England to the Occident and everything points to her intention to become a great manufacturing nation, a great commercial nation and a great carrying nation. Colonization and sea power leading to commercial supremacy seems to be her motto. In the course of his speech on the shipping bill Senator Gallinger intimated that unless the mail subsidy to the American line running from San Francisco to Australia was increased he had it on good authority that the service would be suspended. It now develops that Japanese interests, according to a reliable source, have acquired an option on these American ships and they will be transferred to the Japanese flag in case the pending shipping bill fails to become a law during the present congress. This line, according to Senator Gallinger, not only performs the best service, but now receives the lowest compensation of all lines running to Australasian ports. The service is so swift and satisfactory that numbers of Australasian business men, even when bound to Europe, are brought en route to the United States. Since 1896 our exports to Australasia have increased almost 150 per cent, amounting to $27,401,000 in 1904, which Senator Gallinger attributes "to the extraordinary efficiency and regularity of the ill-paid American steamship service out of San Francisco." Under the Japanese flag these ships can be operated largely with the cheapest Asiatic labor and receive liberal subsidies from the Japanese government. It is not expected, however, that if they are acquired by the Japanese they will be continued in the trade between Australasia and San Francisco for the benefit of American commerce, but will rather be transferred to some route that will aid Japan.

Coupled with this information is the report, also apparently authentic, that Japan is reaching out for the Pacific mail steamers and has secured an option on them also to be exercised unless the shipping bill passes. All familiar with the subject remember how the Pacific Mail Company has been compelled to exercise every ingenuity to meet the competition of the Canadian trans-Pacific lines. It has even been said that the Pacific mail steamers work their ships almost to our ports with Chinese crews and then bring them in with American crews, placing the Chinese on smaller craft until the ship starts on her return voyage when they are picked up and worked to the Orient and back when the same dodge is repeated. Under the Japanese flag there would be no such difficulty and the subsidies would be more liberal.

While the United States at the height of her prosperity is hesitating to spend a few millions in subsidies, Japan, fresh from a tremendous financial drain of the late war and with half the population and incomparably less resources, is reaching out with an open purse for steamship lines. Secretary Wilson, of the Tokyo legation, has sent the state department the particulars regarding two steamship lines now being established between Japan and South America with which this country is so anxious to open up communications. The first is a Japanese enterprise called the Toyo Kisen Kaisha, which already owns the American Maru, Nippon Maru, and Hongkong Maru, sailing between China, Japan and San Francisco, by way of Honolulu. According to Mr. Wilson, two steamers of 13,000 tons each have been ordered by this company to be built at Nagasaki. The keel of one has already been laid and the two are expected to be completed within two years. Until they have their own steamers the company will employ chartered British vessels. It is expected that the new vessels being so large, will be placed in the San Francisco trade and the three vesels mentioned will be run to South America. The route will be from Hongkong via Japanese ports to Honolulu and San Francisco, thence to Panama, Guayaquil, Callao and Iquique. The company counts largely on Chinese passengers and goods for South America, especially Chinese laborers for the development of Peru, while nitrates for fertilizers and Peruvian sugar are expected to furnish the return cargo. Commencing on the possibilities of this trade, Secretary Wilson says:

> It is not unlikely that an important commerce between Japan and the countries of South America may follow this opening of cheaper communication. The Japanese expect to find a market there for manufactured silk, matting, straw braid, straw hats, porcelain, fans, paper, matches, bamboo articles, lacquer-ware, wooden manufactures, etc. South American articles of export which would find a market in Japan are leather, hides, cotton, wool, nitrates, sugar, fodder and wheat. The starting of regular Japanese lines to South America indicates the far-reaching commercial enterprise of the Japanese and their determination to have a merchant marine of the first magnitude. With a large seafaring population, low wages, cheap coal, and liberal government subsidies to steamship companies, the Japanese will reach out for a good share of the lucrative carrying trade of the world.

Evidently the Japanese believe that commerce follows the flag in peace as in war.

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The steamers John C. Gault and Russell Sage, formerly operated by the Lake Erie Transportation Co. between Toledo and Buffalo, are for sale by George E. Hardy, care of Hardy & Dischinger, Toledo, O. The boats are in excellent condition and it is understood that the price at which they are to be sold is very reasonable.

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The steamer building at the Bay City yard of the American Ship Building Co. for the Gilchrist Transportation Co. of Cleveland will be named in honor of John Sherwin of Cleveland.

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Mr. Charles O. Jenkins announces that he has changed the name of the Mack Steamship Co. to the Jenkins Steamship Co.

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## AID TO SHIPPING.

In a recent issue the *Philadelphia Press* prints a letter from Theodore Justice to Francis B. Reeves discussing the question of ship subsidy in all its varied phases. This letter of Mr. Justice was elicited by a letter from Mr. Reeves which communicated the objections of a southern senator to ship subsidies.

Mr. Justice, in taking up this phase of the case, in meeting the objections of the southerner, at the outset holds that the chief reason for supporting the subsidy bill is "patriotism," and he then continues as follows:—

We need to build up a mercantile marine to furnish auxiliary ships and seafaring men to supplement our splendid navy, without which the United States are very much in the position of the Russian navy that collapsed in its first contact with the Japanese fleet, because those splendid Russian ships, equal to any in the world, were manned by inexperienced seamen.

Russia, like the United States, has no school for its officers and men outside the naval establishment. Japan's pre-eminent advantage arose largely from the fact that her mercantile marine furnished an unlimited supply of auxiliary vessels and trained seamen, and it is doubtful if any European nation, with the single exception of Great Britain, could have successfully competed with her. The American merchant marine, by national aid, can be built up in a very few years to exceed that of Japan.

Our southern people are justly proud of our splendid young navy, and in so far as they understand it, seem as anxious as citizens from any other part of the country to make it efficient, but they do not seem to comprehend that without a mercantile marine, in case of conflict with any first class navy, ours would be in the position of a man with one hand tied behind him, for we have practically no mercantile marine to act as auxiliary to the navy.

The American nation should build this up regardless of its cost, and if the southern people could see the importance of it their unquestioned patriotism would impel them to make the matter a national rather than a sectional one.

As an illustration of the extent of our present weakness I call attention to the report of Admiral Sampson, who stated that although we were victorious in every conflict in the war with Spain, at the close of the Spanish war we had completely exhausted our auxiliary resources, so that if we had had a single defeat on the ocean, or if the war had continued longer, this weakness would have been brought painfully to the attention of every patriot, whether he be a descendant of the heroes who fought at Yorktown or Cowpens in the south, or of those in the north who aided in the defeat of Burgoyne.

Our present tariff has enormously developed our internal resources, and we bring our exports to our seacoast and transfer them to transportation lines flying foreign flags, whose annual profit is estimated at over $200,000,000, every dollar of which is spent abroad, whereas if it were earned by Americans, as it can be if this bill is passed, this immense sum would be spent at home, and every section of the United States would be benefited by this addition to our income.

Besides this, think of the hundreds of millions of dollars that would be spent in building up a navy. As $1,000,000,000 in 1906 is being expended by American railroads in new construction, some idea may be formed of what additional sums would be spent among our people in building a mercantile marine.

It has been estimated that the labor and material for this would amount to $1,000,000,000, so that when the cost of building an adequate mercantile marine is added to the sums now earned by foreign carriers of our commerce, we would have a total of $1,000,000,000, which distributed among the American people would be about $14.50 per capita.

Can any of our people from either the south or west say that this would be of no benefit to all of the people living in the south or the west?

Thomas Jefferson, a southern patriot, advocated ship subsidy in the early part of the history of this nation, which built up our commerce so that at the time of the breaking out of the Civil War, when so many of our ships were swept from the sea by Confederate cruisers, 80 per cent, of our commerce was conducted under the American flag.

About this time the iron ship was substituted for the wooden vessel, and in the beginning Great Britain had an immense advantage over us in building the vessels that carried American commerce as the tariff had not then built up this infant industry with us, which now is a giant that is ready to build up a new mercantile marine that will beat the world. France and Germany had no protective tariff on ships as they now have, and this permitted the import of free ships, and these nations bought their ships in Great Britain.

The result was that their commerce continued to dwindle, and it was not until they followed the British example and heavily subsidized their ships sailing to almost all parts of the world that they began to build up a mercantile marine which now carries the greater part of their commerce, and today German ships carry half the passengers that a few years ago sailed mainly in British ships. For the result of this commerce you must look at the enormous profits spent among their own people which have accrued to them from their ship subsidy bills.

These have given them the building at home of some of the finest steamers in the world, distributed millions of money for material and labor among the German people, as well as trained thousands of seamen, who furnish an auxiliary naval reserve for these fighting ships, an element that we lack.

One decade of the German policy would make us second only to Great Britain, and two decades of it would make us master of the maritime power of the globe, with the Stars and Stripes floating over magnificent steamers on the high seas. Does this not appeal to the pride of the south?

Today, owing to our neglect to do what the leading nations of Europe have done in subsidizing ships, 90 per cent of our commerce, amounting to $2,500,000,000 annually, is carried under foreign flags, and less than 10 per cent of it under the American flag.

Foreign ships come to our shores bringing $1,000,000,000 of merchandise, which does not give them a full cargo, so part come here in ballast in order to get a full cargo, amounting to $1,500,000,000 of exports.

If foreign vessels find it profitable to come here for our immense commerce, and if they are kept alive by subsidies, it follows that we are grossly negligent if we fail to follow this example of Great Britain, Germany and France. We need to investigate only the example of the latter two: When they had laws permitting them to buy free ships in England, their foreign commerce dwindled away, but when they subsidized their ships it responded with prompt expansion. Thirty years ago German commerce was insignificant—today Germany is second only to England in foreign trade and prestige, and the United States in time can exceed them both.

We are asked if we could expect foreign people to trade with us when we do not do some trading with them. Foreign people buy merchandise of us only when they can buy it cheaper than they can get it elsewhere, and

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the fact that we are selling 50 per cent more than we annually buy, selling to foreign nations $1,500,000,000 and buying of them only $1,000,000,000, effectively answers this question.

The trouble with some of our southern and western people is this: They think that when they appropriate money for a ship subsidy they are making a present of national cash to some one. This charge was made against the national government by the south when the government granted 200,000,000 acres of land, now worth $1,000,000,000 to the transcontinental railways.

Without those grants their roads could not have been built when they were, and the Indian and the buffalo would still hold sway in some parts of the middle of our continent. But by reason of those grants we have developed the interior of the continent until its value has increased beyond computation.

I am now selling wool grown on ranches over which I chased the buffalo in 1868. The presentation of these grants, estimated to be worth $1,000,000,000, to the transcontinental railways was one of the best investments "Uncle Sam" ever made. Yet they were made against the same kind of opposition and from the same side of the country that now opposes the ship subsidy bill.

Our ship building industry once placed in a position of comparative independence through the equalization of competitive subventions—a condition to which it is richly entitled for these many years of patient waiting and neglect, past Congresses having permitted every other nation to carry our great commerce—American shipping lines will again be able to compete successfully with formidable foreign rivals that have attained their present power through the same agencies, subsidies, and our mercantile marine during the lives of men who are only now in middle life will be the pride of all the American people.

From patriotic motives alone, however, every senator and member of Congress, and their constituents as well should enthusiastically support the building up of a mercantile marine as an auxiliary to our navy, even if every dollar of its cost came out of the public treasury, and brought no immediate or direct return, but like the granting of land to the transcontinental railways, the money spent on a mercantile marine, independent of the military view of it, will return a thousand fold in wealth to the American people.

A friend has asked if it is right and just to give Mr. Cramp a million dollars out of public funds and not give the same amount to some struggling industry in the south. Would this friend allow those splendid ship yards in the south, at Newport News and elsewhere, to rust into scrap iron, as they surely will without the assistance which European governments give their shipping?

In the first place anything that represses our national industries, no matter where located, assists in repressing the struggling industries in the south, but aside from this view, experience in the Spanish war showed that it was impossible to purchase abroad ships of war. Straining international laws to the breaking limits, we were able to secure only a few old tubs that were of very little assistance to us, and if we had been in conflict with a nation whose navy was very superior to that of Spain, our young navy would have been wiped off the seas; and it is absolutely essential to our national safety that we have more ship yards like those of Cramp's or Newport News.

There seems to be an idea in some men's minds that all public grants should be withheld if any individuals make any profit out of them. To show the narrow-mindedness of such a view we simply have to apply to this idea as an illustration the action of the government in regard to the transcontinental railways spoken of above. The parallel is perfect. The two situations are similar.

It was argued then that it was wrong to give away these millions of acres that the money might go into the pockets of the few. We all know that a group of men who had the courage to risk their capital in transcontinental railway building were enormously enriched thereby, but that wealth which you might say was taken out of the pockets of one man to put into the pockets of another was but an infinitesimal fraction of the amount by which the national wealth was thereby increased, and it is simply beyond human foresight to estimate its future value; in fact, our country has to either strangle, or have these highways of commerce and intercourse.

France and Germany could not get ships to haul their goods without subsidies, but when the subsidy was granted both their ships and their commerce increased enormously. The expansion of their foreign commerce would be small in comparison with that which would come to the American people, for we have such wonderful resources that with liberal ship subsidies the expansion of our commerce would be so great as to fairly stagger the imagination.

In looking at the history of the decline in American ships it is said that the main cause was the lack of a world's market. The home market is worth more to the American nation than all others put together, but the time is approaching when we will produce so much more than our home market can absorb that we shall be reaching out for foreign markets. To do this we must have ships, and the object of the subsidy bill is to create lines of transportation to markets which are now supplied by other nations.

In fact, in my business we have commerce with Australia and South America, and, instead of having American vessels to bring our merchandise here, it has sometimes to go to London in British bottoms and then be reshipped to the United States, whereas, if the plan of the ship subsidy bill was carried out, the profit of this commerce would go to Americans. The merchandise that we are buying in foreign markets would come here in our own ships, which would take back merchandise of American production.

Outside of all these considerations, however, we come back again to the feelings of patriotism that glow within the breast of every American citizen, and any man from any part of the country who will take the trouble to inform himself and who will divest his mind of sectional prejudice that is blinding him will see clearly that it is our duty to our great progenitors, to ourselves and to our children, to provide for the national defense upon which depends our national life, by supplementing our navy with an adequate auxiliary mercantile marine.

A bounty to native born or naturalized American citizens, that would give the government a claim upon their services in case of war, and sufficient in amount to provide for the comfort and support of aged parents, or a widowed mother or sisters, would attract hundreds of thousands of young American boys to a sea-faring life.

Congress, if it is broad-minded and patriotic enough, can provide the ways and means for building up through a ship subsidy bill a satisfactory mercantile marine, which is the only important American industry now neglected.

In spending millions of dollars for irrigation, our national government is lending its powerful aid to the commendable purpose of making productive great tracts of what is now practically waste land in the west, but the benefit to be derived here pales into insignificance in comparison with that which would accrue to our nation, if an

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equal amount of money were spent to protect and stimulate our mercantile marine, now stifled by the competition of foreign subsidized shipping.

## LAUNCH OF STEAMER LOFTUS CUDDY.

The steamer Loftus Cuddy, building at the Lorain yard of the American Ship Building Co., for Capt. John Mitchell, of Cleveland, was successfully launched on Saturday last. The new steamer was christened by Miss Ethel Cuddy, daughter of Mr. Loftus Cuddy, in whose honor the steamer was named. At the conclusion of the launch the launching party repaired to the Union club as guests of the American Ship Building Co., where luncheon was served. In the launching party were Mr. and Mrs. Harvey D. Goulder, Mr. and Mrs. Herman A. Kelley, Mr. and Mrs. L. A. Murfey, Mr. and Mrs. A. C. Hord, Mr. and Mrs. S. L. Rolfe, Mr. and Mrs. A. C. Dustin, Gen. and Mrs. George A. Garretson, Mr. and Mrs. John F. Whitelaw, Mr. and Mrs. H. P. McIntosh, Mr. and Mrs. W. E. Hall, Mr. and Mrs. George E. Collings, Mr. Milton F. Dyer, Mr. L. Packer, Mr. J. A. Stuber, Miss Florence Osborne, Miss Helen Miller, Miss Louise Knapp, Rev. Dr. George A. and Mrs. McGrew, Mr. and Mrs. Alfred Mitchell, Miss Mitchell, Jack Mitchell, Edward T. Mitchell, Clarence Lanton, Miss Florence Oster, Mr. and Mrs. Charles Morrison, Ralph Mitchell, John F. Wedow and the Misses Wedow, Capt. Charles B. Galton, Mr. Wm. Fetting, Mr. and Mrs. Loftus Cuddy, Miss Ethel Cuddy, Brockman Cuddy, Jeffrey Cuddy, Alfred Kelly, Mr. James C. Wallace and Mr. Robert Logan.

The new steamer is 545 ft. over all, 525 ft. keel, 55 ft. beam and 31 ft. deep. She has sixteen hatches spaced 24 ft. centers. Her engines are triple expansion with cylinders 22½, 36 and 60 in. by 42 in. stroke, supplied with steam from two Scotch boilers, 13 ft. 9 in. by 11 ft. 6 in., equipped with Ellis & Eaves draft. Her carrying capacity will be 10,000 gross tons of ore. She will be sailed by Capt. Charles B. Galton, and her chief engineer will be Mr. Wm. Fetting.

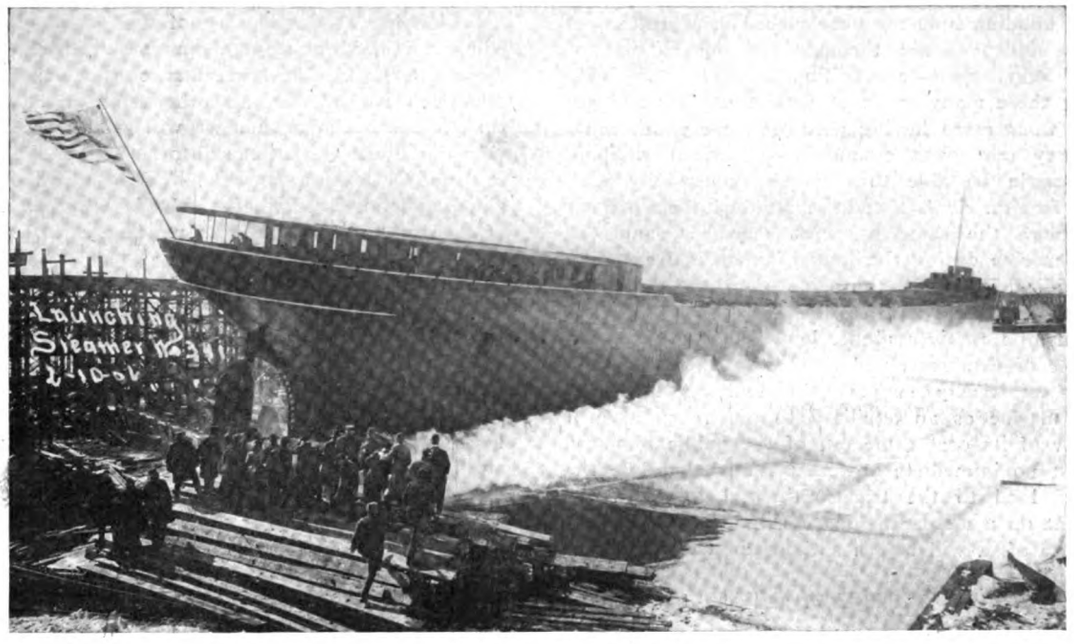
The steamer Wm. P. Snyder, building for the Shenango Steamship Co., of Cleveland, will be launched from the Ecorse yard of the Great Lakes Engineering Works on Saturday next.

## FREIGHT SITUATION.

The lake freight trade has been unusually quiet with the exception that boats have still been chartered to hold coal until the opening of navigation. Naturally the weather has interfered even with this branch of the trade. The extremely cold weather has interfered with the movement of the vessels at the docks. However, a greater number of freighters will leave with coal on their first trip than have ever left before. A number of the ore companies that usually do not carry coal will probably take some on the first trip, as there is likely to be quite a demand for that commodity at the head of the lakes when navigation opens.

Nothing has been done in the ore trade since the last splurge in chartering, but the movement for the year is fairly well covered. It will be a natural thing to expect, however, that the wild movement this year will be somewhat greater than last. The weather has interfered with the movement of ore from docks to furnaces, but as so great a proportion of last year's movement went directly into cars, Lake Erie docks on May 1 will be comparatively free of ore.

The Lumber Carriers' Association has fixed the lumber rate at $2.50, but it is not known that any chartering has been done at that figure.




LAUNCH OF THE STEAMER LOFTUS CUDDY.

## UNDER GREAT LAKES REGISTER CLASSIFICATION.

Of forty-three large steel vessels now under construction or contracted for in lake ship yards, twenty-six are to be built under supervision of the Great Lakes Register of Cleveland, and for class in the register. The eighth annual issue of the register, 1906 edition, is in the printer's hands and will be distributed to subscribers as usual about March 1. A branch office of the register under the direction of Mr. Hugh Calderwood, formerly superintendent of the Collingwood Ship Building Co., has been opened in Toronto, and Mr. John T. Webster, late works superintendent of the Bertram Engine Works, is now connected with the engineering force at the Cleveland office.

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## LOUIS HAUSHEER.

In the passing away of Mr. Louis Hausheer on Sunday, Jan. 28, another member of the old guard of well known marine men joined the throng that has gone before. Mr. Hausheer started in business on River street near the present location of the firm of Hausheer & Sons in 1854, and was a close friend of all the vessel owners and managers of these times. Alva Bradley, Phillip Minch and R. K. Winslow, and before engaging in business for himself, worked side by side with Thomas Maytham, who later became a prominent vessel owner. Mr. Hausheer himself, had various vessel interests and was a director in the Richardson Transportation Co., the Norton Transportation Co., and others.

He was probably known by more captains and marine men generally on the lakes than anyone at present living, from his long connection with the marine business, being over seventy-four years of age at his demise. He was a character from which emanated good cheer and good nature, which with a natural fund of good humor and sharp wit, and an inexhaustible supply of anecdotes, coupled with an inimitable method of story telling, made him a boon companion, and all the older captains always figured on a joke or good story from genial "Louie," as he was called, whenever they saw him. He was also active in politics in earlier life, serving six years as police commissioner under three successive different administrations, under mayors Nathan Payne, W. G. Rose, and R. R. Herrick.

LOUIS HAUSHEER.

He married Miss Ottilie Rauch in 1858, and the widow still survives him, and also three children, two sons, Louis Jr. and George W. and a daughter Mrs. Philip Minch. The eldest son, Louis Jr. is purchasing agent of the Pittsburg Steamship Co. and manager of that company's large stores at Conneaut and Sault Ste Marie, while George W. conducts the business of the firm of Hausheer & Sons, he having been the real active head of same for several years.

The funeral was largely attended and the floral offerings were most beautiful and numerous. The honorary pall bearers were: Mr. M. A. Bradley, Capt. W. C. Richardson, Capt. Geo. P. McKay, Wm. J. Akers, Capt. Henry Stone, Capt. Ed. Thorpe, Capt. Joe Todd, John D. Clary and a brother-in-law, Mr. Charles Rauch, of Buffalo. Telegrams and letters of sympathy and condolence were received by the family from vessel men all over the great lakes.

## BRIDGES OVER NAVIGABLE STREAMS.

A decision of vast importance to the marine interests of the country was handed down by Judge Joseph Buffington, of the United States district court, sitting at Pittsburg, last week. It involves the right of congress to interfere with bridges erected under the authority of a state, and it affects practically every state in the Union, and the ultimate outcome, after a hearing in the United States court of appeal and United States supreme court will be watched by maritime interests. Judge Buffington maintains the right to interfere cannot be questioned.

The Union bridge across the mouth of the Allegheny river at its intersection with the Monongahela, at the head of the Ohio river, had been complained against by river steamboat interests, and the contention made that it was an obstruction, inasmuch as it interfered with navigation, and was a menace. The decision of the court is that the bridge company, without compensation from the government must raise its structure sufficiently to allow a clear height of 70 feet above the stage created by the Davis island dam, five miles below the bridge in the Ohio river. River interests maintain that this structure has materially retarded the shipping interests on the Allegheny, and that it was impossible to develop this stream to accommodate the commerce which would naturally seek it, were conditions favorable. The government has built or has in process of construction a system of locks and dams on the Allegheny which will slackwater the stream for 27 miles from its mouth. The bridge in question was built in 1874-5, by the Union Bridge Co., a corporation chartered under the laws of Pennsylvania in 1873.

## SENATE PASSES SHIPPING BILL.

The United States senate has passed the shipping bill on Tuesday by a vote of thirty-eight to twenty-seven. There have been certain amendments in the measure which will be discussed in the next issue of the REVIEW. As passed, the bill establishes thirteen new contract mail lines and increases the subvention to the Oceanic Steamship Co. for its service to Australasia. The bill also grants a subvention at the rate of $5 per gross ton per year to cargo vessels engaged in the foreign trade of the United States and $6.50 per ton to vessels engaged in the Philippine trade. A new naval force of 10,000 officers and men is also created who are to receive retainers after the practice in vogue in Britain.

## OBITUARY.

Capt. Charles A. Eggert died at Muskegon last week. He had been associated with the lumber trade of the lakes for a great many years, and had been a resident of Muskegon for more than fifty years.

Capt. Joseph M. Stover died at Sombra, Ont., recently. He was a popular captain in the 60's and 70's. His last command was the steamer James C. Woodruff. He retired from the lakes several years ago.

A. H. Christopher has established at Olympia, Wash., a plant for the building of small craft, chiefly launches and motor boats.

Capt. Henry Peterson will sail the steamer W. P. Snyder now building at the Ecorse yard of the Great Lakes Engineering Works.

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## LIVERPOOL SHIPPING LETTER.

Liverpool, Feb. 5.—A return just issued by Lloyds Registry of vessels lost, condemned etc., during the quarter ending Sept. 30, 1905, shows a total for all countries of 49 steamers aggregating 66,016 tons gross, and of 74 sailing vessels aggregating 47,380 tons. Of the steamers lost the United Kingdom contributed 20 of 25,780 tons, and of sailers, nine vessels of 11,784 tons. The proportions to the total owned are in the case of steamers .25 per cent of the number, and .18 per cent of the tonnage, and in sailing vessels of .62 per cent of the number and .90 per cent of the tonnage. Dealing with the totals, all types and countries, viz., 123 vessels, aggregating 113,396 tons, the losses are classified as follows:—Abandoned at sea, nine vessels of 7,161 tons; broken up, condemned etc., five of 2,375 tons; burnt, four of 8,415 tons; collision, 13, of 14,858 tons; foundered 13, of 5,480 tons; lost, etc., two, of 3,372 tons; missing, 10, of 10,018 tons, and wrecked, 67 vessels of 61,717 tons.

The Liverpool Underwriters' Association report that the casualties to vessels of 500 tons gross register and upwards which have been posted in the Loss Book during the month of January this year numbered 563, as against 560 in January, 1905; 489 in January, 1904, and 522 in January, 1903. Of these 538 were partial losses, the total losses being 25 as under: British: 4 sail of 5,801 tons, and 5 steamers of 12,444 tons (compared with 1 sail, of 921 tons and 5 steam of 7,276 tons); Foreign: 6 sail of 5,207 tons and 10 steam of 23,314 tons (as against 9 sail of 13,445 tons, and 15 steam of 27,258 tons in January,1905), a total of 25 vessels, aggregating 46,766 tons, as against 30 vessels of 48,900 tons in January, 1905. The nature of casualty is given as follows:—collisions, 168; strandings, 155; weather damage, 129; damage to machinery, shafts and propellers, 72; fires and explosions, 23; founderings and abandonments, 6; and other casualties, 10.

The marine engine of the future is believed in many quarters in Britain to be the turbine with oil fuel. The dream of the engineer is to get rid of his boilers, and to that end experiments are being carried on by some of the ship builders who have become firm believers in this method of propulsion, and generating power.

Sir William White C. B., late constructor to the British Admiralty in the first of four lectures on Modern Warships before the Society of Arts said that naval architects had learned practically nothing from the recent warfare in the far east. Tsushima and other sea battles had merely confirmed their theories. Proceeding to describe the evolution of the warship, Sir William showed how the gun dominated the design. Every other quality of the vessel had to be accommodated to it in order that no quality should be developed extremely to the detriment of the whole efficiency. By means of lantern slides he traced the progress of the armor-clad, from the Inflexible with her low sides, through the monitor-like Howe to the Royal Sovereign, with her great freeboard, her highly placed guns, and her secondary armament. He then showed the difficulties which beset the designer of warships in the internal arrangement of his ships. He had to get all the strength he could for the support of his gun armament, and at the same time keep down weights in order not to increase the displacement. This he was able to do with the partial use of special steel. Much the same effort to save weight was necessary in the engine room.

On Saturday last the Empress of Ireland, the second of the two new large steamers for the Canadian Pacific Railway Company, was launched from the yard of the Fairfield Shipbuilding & Engineering Company, and the middle of summer should see both of these new vessels on the regular Liverpool and Canada service of the company. The Empress of Ireland, like her sister ship, Empress of Britain, is 550 ft. in length, 65 ft. in breadth, 40 ft. in depth to upper deck, of 14,500 tons gross, 20,000 tons displacement, and 18,000 h. p. Both will have splendid accommodation for 310 first class, 470 second class, 500 third class, and 270 steerage passengers, 1,550 in all. The Empress of Britain, launched in November last, is expected to be ready for delivery in April, and the Empress of Ireland about June. Mr. Archer Baker, the European representative of the C. P. R. Company, speaking at the launch said the company operated 348 miles of line in 1881; now they operate 11,000 miles. They had now 54 steamers on the Atlantic, the Pacific, and the lakes and rivers of Canada. Their earnings for the last half year showed an increase of $3,000,000, and on their pay bill there were now 35,000 employes.

The coming passenger season to Canada, it is stated here, will witness important developments in the way of faster steamers being placed on the Liverpool and Canadian service. The C. P. R. Company's new liner, the Empress of Britain, 14,500 tons, will sail on her maiden voyage early in May, and in June, she will be followed by her sister ship, Empress of Ireland. There is a rumor that the International Mercantile Marine Company, which controls the Dominion Line, will transfer two of their fast steamers running in the United States trade to the Canadian service at the opening of the St. Lawrence season but there is no confirmation of the rumor here. It is also rumored that a well known Liverpool and New York liner may be placed on the Canadian service to meet the growing competition. The Allan line will have a splendid fleet of steamers running between Liverpool and Canadian ports, and their turbine boats have proved very popular. They have placed orders for two more turbine steamers. A report also comes from Montreal that the Dominion Steamship Company will place two large new steamers on the service at the opening of navigation in 1907, but nothing appears to be known in Liverpool shipping circles about the matter.

Mr. Bartram, a prominent ship builder, speaking at the annual meeting of the Sunderland Chamber of Commerce, stated that the prospects of trade on the Wear were exceptionally bright. All ship builders there had orders booked to keep them busy for a whole year, and the workmen were assured of work in ship yards and orders were taken at the end of last autumn at bed-rock prices. The price of material had since gone up $5 per ton, and this might check matters, but all depended on freights. These had been very low, but had now advanced, and if they went up further, it meant increased prosperity to shipbuilders.

The Motor Boat Club of America, having challenged the Motor Yacht Club (the present holders), to race for the International Motor Boat Cup, the contest will be held in British waters, probably at Cowes, some time between the 6th and 18th of August, this year.

Great interest is being taken in the new ship building yard now being built at Birkenhead for Messrs. Cammell Laird & Co., which, when completed, will play an important part in the ship building trade of the kingdom, and do much to restore to the Mersey the position it occupied 30 or 35 years ago as a ship building center. Details of all that is going on are not available, but it can be said that there is ample accommodation for eight building berths, and that ships up to 1,000 feet can be laid down when the accommodation is ready. If it is ever found necessary to build ships of greater dimensions, the berths can be even lengthened some two hundred to four hundred feet. The

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elaborate arrangements now being made for the construction of the engine and erecting shop, which is to have a length of nearly 1,100 ft., the iron and brass foundries, the pattern makers,' joiners,' and cabinet makers' shops, and the building sheds leave no doubt as to the completeness of the works when finished, or of the intentions of the directors to leave no stone unturned in the provision of the latest and best, and their determination to make Birkenhead rank with the very best yards in the world. A 150-ton crane is not the least important appliance, and it is significant that this provision will enable the company to handle the huge weights to be found in the express Cunarders when they come into commission. All the driving power in the works will be electrical and a large capacity Mond gas installation is now erected. In addition to the eight building berths already mentioned, there is, of course, the existing accommodation for nearly half a dozen smaller craft at the present yard of Cammell Laird & Co., as well as the dock in which some of the finest battleships in the British navy have been built, and in addition graving docks in which repair work has been carried on since the establishment of the yard. There are also two new graving docks of 708 ft. and 864 ft. respectively almost completed in the new ship building yard.

The construction of the new White Star liner Adriatic, by Messrs. Harland & Wolff at Belfast is proceeding rapidly, and the work is said to have reached one of its most interesting stages. The immense size and graceful lines of the vessel are becoming more in evidence every day as the plating of the shell and the other parts of the vast structure began to cover up the framework of the hull. At present the Adriatic is about three parts plated and about one-half riveted. The total number of plates throughout the ship will be close on 20,000, each about 32 ft. long and 5 ft. broad. The dimensions of the Adriatic exceed those of the Baltic by some feet, consequently she will be, when finished, the largest liner the world has ever seen. She will hold that honor until the advent of the Cunard express turbine liners.

## BUFFALO SHIP YARDS BUSY.

Buffalo, Feb. 10.—The Buffalo ship yards are taking in hand the members of the winter fleet that were so terribly knocked to pieces by the big waves that they encountered on their last trip down with grain. Of course it is not such a very hard problem to refit them, but the loss they sustained in an instant of time was something that would be regarded as a fortune if it could only come to someone in a lump as it went out. A first inspection of some of the vessels gave the builders an idea that $20,000 apiece would about stand for the wipe the wave that hit them above deck would cost, but since some of them went into dock it is estimated that $10,000 will do the work.

As a rule the upper decks were more or less displaced and the iron deck house went down like eggshells, but they were well enough fortified by the next deck to save the grain from more than a minor wetting, though the H. B. Nye had to stand about 17,000 bushels of wet or jettisoned flaxseed. The force with which these waves were driven against the vessels and the height some of them must have risen above deck is something hard to understand when one thinks of the usually calm, level state of the water in the lakes.

There is a theory that long vessels, that are able to extend from one wave crest to another and never be the victim of a single one at any time, are much more seaworthy than shorter ones, which may have to sink far down in the trough of a wave at times and cannot rise in time to overtop the next breaker that comes in, but there must be cases where the conditions serve all craft much alike. At least the big steamers did not escape such storms as we had on the lakes last fall.

I hear some complaint of the endless extension of the length of vessels, and some prediction that 600 feet, with no additional breadth of side to match so much leverage is not going to bring results that warrant the effort to bring down a whole season's business at a time. It is a fact that some of the ocean tramps are no further out of water than our freighters are, but they are down deep in the water and breaking in two is out of the question. It is this depth that makes it next to impossible to bring an ocean boat to the lakes, and it is the lack of it that makes a lake boat unsuitable for the salt water. When the steamers Roanoke and Westover came up from Tampa bay some 20 years ago, they were able to carry only about 600 tons of freight, but they drew so much water that they were suitable to enter only the deepest lake harbors.

The wave that struck the steamer E. C. Pope must have been delivered broadside fashion for it shoved her over far to one side, driving one side badly in and pushing the other side correspondingly out. No one would suppose that mere water in motion would be able to overcome the resistance of so much metal as is presented even above the water line, by one of these modern lake steamers.

None of the inspections of vessels that were smashed down by waves has as yet come in for the Lloyds Register, and there is some curiosity as to how the inspectors will regard the accidents of that character. If they look on them as the result of storms that were not likely to occur often, there will be no special recommendations, but if the upper works are thought to be too light, that will be another matter. It seems that the practice of placing the captain's bridge so far forward as is sometimes done, will not be popular if such storms are to be common. It would be safer and more "ship shape" anyhow, to locate it well amidships.

As to the lengthening of vessels it has all along been held that to add 72 ft. to a steel hull was not likely to weaken it if properly done, but now that there is a move to add 96 ft. I hear some criticism from experts. It is not claimed that the work cannot be done as usual, but it is likely to produce a boat that is out of all proportion. She will not have the beam to correspond with her length, and besides steering badly will be unwieldy in other ways. The notion that such new work does not jibe well with the old, is a mere remanent of the experience in lengthening wooden hulls. Nobody at all up in the business pays any attention to it, but there are other considerations that must not be overlooked. Possibly it will be necessary to make the experiment a few times before it is entirely safe to be very positive in the matter.

The Buffalo ship yards are very busy. The labor trouble at the Buffalo yard is over, and a force of 800 men is on. The Empire yard is also doing all it can.

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The Ericsson Line, Philadelphia, will soon let contracts for the construction of two passenger steamers for outside service between Philadelphia and Baltimore. The steamers will be 300 ft. long and 40 ft. beam. They will be fitted with triple expansion engines and water-tube boilers.

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The steamer Tiverton building for the Swett-Davenport Lumber Co. of San Francisco was launched from the Hitching's yard, Hoquiam, Wash., recently. The steamer is 172 ft. over all, 160 ft. keel, 36 ft. beam and 12 ft. 8 in. deep.

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## AT THE HEAD OF THE LAKES.

Duluth, Minn., Feb. 12.—Steamer Bon Ami of the Booth line, left this city on her last trip Feb. 10, and laid up at Two Harbors on Monday, the season for this craft being 321 days, having started in March. There is no reason why the boat could not continue longer either from Duluth or Two Harbors, for there is not enough ice at either place to obstruct navigation. The boat will be running again next month. The season has been a very profitable one, and the Booth line has done far more passenger and freight business than ever in its history. The continual development of the north shore, and the great amount of through business growing up between this city and the Canadian ports of Port Arthur and Fort William is having its effect on the trade, which each year demands better and better craft and more commodious passenger accommodation. Capt. Con Flynn, a well known vessel man of this city, has been appointed district steamboat manager for the Booth company, and will have charge of all its boat operations out of this city.

HARVEY WON'T BE HAPPY UNTIL HE FINDS IT.
*Donahey in the Cleveland Plain Dealer.*

Frankman Bros. & Morris, of St. Paul, who built the first half of the Northwestern Fuel Co.'s great coal dock at Superior, are to erect the second half, this season, at a cost of $300,000. Work begins at once. The contract includes merely substructure, dredging, and the like, and about $300,000 more will be spent in various equipment and superstructure contracts. When completed the dock will be 1,200 feet frontage with the same depth from front to front. It will have, therefore, room for shipping of 2,400 feet at which there will be 21 feet of water. The storage capacity of the completed dock will be about 850,000 tons. It is supposed that boats will be handled at the new port the coming fall.

Efforts are making to induce various waterfront interests at Duluth to subscribe toward the construction and maintainance of a fire tug for the city. It is estimated that the cost of a properly equipped fire tug will be from $75,000 to $80,000.

Total quantity of grains in store at the head of the lake has increased rather slowly of late, but now amounts to more than 18,000,000 bushels. It is coming in at the rate of better than 1,000,000 bu. per week. Flour has not begun to arrive here for spring shipment, though it is about the time when it usually begins to come up from Minneapolis. But the flour market is very quiet and the mills are not running strong.

The Great Northern Power Co., of Duluth, is busy looking up manufacturing enterprises to utilize the surplus of power which it still has. It has sold about 17,000 of the 30,000 horsepower that it will have ready for work next summer, and the expectation is that most of this remainder will be contracted for in a short time. No contracts have been let for power for the mining or railway companies running to the mines, and it may be that nothing will be done on this line for some time, but there is little doubt that in time the mines and roads running to them will be using power from the Duluth works.

The Reid Wrecking Co. succeeded in getting the Manila off the rocks of the north shore, only to have the boat sink in 23 feet of water just as they got her moving toward this city. It will not be a serious matter to repair this last break, however, and she will be up again in a short time. It is now rumored that the boat may be equipped with steam, the engines of the lost Lafayette being used for her. As soon as the Manila is in the drydock work begins on the Mataafa.

## COAL CO.

The Pittsburg Coal Co., has decided to dispose of some of its lake property and extend its operations in other directions. Among the latest transactions in this direction was the sale of the Western Coal & Dock Co., at Waukegan, Wis., to the Erie railroad. This property was acquired for the purpose of disposing of soft coal in that district, but the Erie road has been using it for some time past for hard coal, and the Pittsburg company received no advantage from the arrangement. The two-thirds interest in the Whitnall Coal Co. at Milwaukee has also been disposed of. As has already been announced the company is erecting a modern coal dock on St. Mary's river to take the place of the present small dock which is inadequate to handle the business the company has an opportunity to secure.

At the recent annual meeting of the Pittsburg Coal Co., at Jersey City, the following directors were elected: Alexander Dempster, Charles Donnelly, D. L. Gillespie and J. Denniston Lyon were elected to succeed A. M. Neeper, T. C. Wales, L. R. Doty and F. M. Wallace, while directors re-elected were Francis L. Robbins, M. H. Taylor, A. W. Mellon, George T. Oliver, John I. Bishop, John A. Bell, Grant B. Schley, Calvary Morris, Henry R. Rea, James H. Beal and Walter Woodford.

On thursday of this week M. H. Taylor, of Erie, succeeds Francis L. Robbins as president, but Mr. Robbins still retains his position as the active head as chairman of the board.

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Capt. C. A. McAllister has been appointed engineer-in-chief of the revenue cutter service in place of Capt. John W. Collins, deceased.

Mr. George W. Dickie of San Francisco will superintend the construction of the Pacific Coast Steamship Co.'s steamer at the yard of the New York Ship Building Co., Camden, N. J.

Mr. John Sampson who has been acting in the capacity of dock agent of the Chicago-Northwestern Railway at Ashland, Wis., has been appointed assistant superintendent of the Pacific division of the Chicago-Northwestern Railway with headquarters at Ashland. Mr. George H. Reese has been appointed dock agent at Ashland.

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## REPAIR WORK AT TONAWANDA.

Tonawanda, Feb. 14.—The extra fine weather here during the last month has been productive of much ship building and before the season of navigation opens next April, there will hardly be a single lake vessel which is wintered at the Tonawanda ports that will not have been rebuilt or given a general overhauling. Last fall it was figured that the amount of repairing and rebuilding to be done this winter here would not exceed the cost of $150,000 but since the weather has been so favorable the supply men and contractors say that the work to be done before next season will be the most extensive ever done in the history of the two ports. It is now estimated that the cost of the vessel repairing and rebuilding done and that to be done will be over $225,000. There are now nearly 400 ship carpenters and men working on the vessels in port.

The single vessel that is receiving the most attention by the ship carpenters at the local ports this winter is the propeller Saint Louis, owned by the International Paper Co., of Niagara Falls. The propeller is being dismantled and will be rigged up as a schooner before navigation opens in the spring. The Saint Louis was built in Cleveland, in 1864, and is said to be the first of the 1,000-ton vessels on the great lakes. For forty-one years she has traded between the upper lake ports and Buffalo and the Tonawandas with grain and lumber and during that time she has towed some fifty schooners. After towing for over forty years, three and sometimes four barges, she will be cut and next season dragged about by her nose, instead of towing other barges. The Niagara Falls Paper Co. has purchased, it is reported, a steel vessel of light draught to tow the pulp wood carriers next season.

Among the vessels that are now being repaired and rebuilt are: propellers C. H. Green, Fred E. Meyers, R. D. Stafford, Buehl, A. Weston, Edward Smith, Ed. Smith, Cormorant, W. H. Sawyer, and L. L. Barth and Schoolcraft and schooners, Nestor, Bourke, Redfern Tuxbury, McWilliams, Eleanor, A. Steward, Case, and Genoa. Besides the above the entire fleet of ore carriers owned by the Tonawanda Iron & Steel Co., which are in ordinary here, are undergoing extensive repairs.

Last year, during the navigation season, but three steel vessels came down the Niagara river with iron ore; but next season the appearance of steel freighters of light draught will be a common occurrence at the Tonawandas, for the Tonawanda Iron & Steel Co. have already chartered a number of the steel carriers to bring ore here all next season.

## TONAWANDA'S BUSINESS.

North Tonawanda, Feb. 14.—According to the annual report of the customs collectors of Tonawanda and North Tonawanda, the season of 1905 was one of the best in the history in all respects, while in respect to the Canadian lumber receipts, last year's duties collected were the largest ever exacted at the local ports. The complete report shows that during 1905 there were 469,847,900 ft. of lumber stock brought down the lakes and unloaded at the Tonawanda ports, while of that amount 57,632,680 ft. was Canadian stock.

According to the Tonawanda customs report there was nothing but lumber and hay unloaded at the Tonawanda docks last season, and there was not even a single cargo of Canadian stock landed there. Tonawanda's report shows that there were 96,512,077 ft. of lumber and 630 tons of hay received during the season of 1905.

Collector Smeaton's full report for the North Tonawanda port shows that there were 373,329,823 ft. of lumber, 3,415,300 pieces of shingles; 115,149 pieces of lath; 65,835 cedar posts; 282,598 tons of ore, and 20,171 tons of pig iron received at North Tonawanda last year by vessel. His report also shows the valuation of merchandise received by vessel was $977,449 while the total duties collected on foreign lumber here last year was $115,265.36.

A compiled report of the two Tonawanda ports shows that the number of coastwise vessels arrived last season were: propellers, 452, and schooners, 356; coastwise vessels cleared: propellers, 463 and schooners, 382; foreign vessels entered were: propellers, 47, and schooners, 54; foreign vessels cleared, propellers, 40, and schooners, 45.

## ROOFING RULES.

The Merchant & Evans Co., of Philadelphia have lately put out a hand book on sheet metals in building construction for architects, owners, engineers and builders under the general title of Roofing Rules. In the preface to this hand book Mr. Powell Evans, president of the company, says that having erected various factory and residence buildings for his own use during recent years he has had occasion to experience the difficulties of selecting the various materials most suitable for the purpose in view, including the wide range of metals now universally required in building. As an owner can devote more time to the details of his individual enterprises than his expert advisor, who has many similar ones in charge, the work has been prepared to present to owners and others in a plain and simple form the various points about metals in building construction with the hope that it would prove of value in making a selection of such materials.

The cover of any building is of the greatest importance. Upon it depends not only the durability and preservation of the whole structure, but the safety of the contents and the comfort of the occupants. The roof should possess the following principal qualities: It should be storm proof; it should be fire and lightning proof; it should be light weight, easy in repair and ornamental in appearance. Mr. Evans then considers the qualities that enter into each one of these five divisions of the subject. He then traces the classes of covering, including wood shingles, composition (coal tar and felt paper), gravel (slag), terra cotta (clay tiles), slate shingles, cement (pavements). Taking up the classes as enumerated thus he briefly describes their various merits. On the subject of metallic roofing the handbook is especially complete and is especially voluminous on the subject of tin roofing. All told, tin is the standard for every roofing purpose; it is also the cleanest roof. Prior to 1890 the Merchant & Evans Co. was one of the largest importers and distributers of the best known brand of Welsh plates, but after the change in the United States laws in 1890, which made the manufacture of tin plate possible in this country, the company became pioneers in its production at its Philadelphia works. In the art today black plate is a standard in production of steel rails, but the process and actual work in coating is what gives quality, value and endurance. Mr. Evans then describes very thoroughly the various processes in vogue of which the palm oil process is the best. The intricacies of the art of making roofing tin are very exhaustively set forth in the book, and the conclusion is a convincing one, that the best of all good roofing tin is Merchant's old method. The book is full of testimonials and is well worth possessing by anyone interested in the subject of roofing.

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## NATIONAL METALLIC PACKING.

The National Metallic Packing Co., of Oberlin, O., has placed on the market a metallic packing which is fast finding favor and which is destined to find even greater favor in the future. The company, which has been exploiting the railway field for the past two years, has recently entered the marine field and already has a number of orders on its books. Among the orders received are to fit the two steamers building for the Jones & Laughlin Co. of Pittsburg at the yard of the Great Lakes Engineering Works, Detroit, with this packing complete. The steamer C. S. Hebard, building for the Wilson Transit Co. of Cleveland and the steamer building for W. C. Richardson of Cleveland will be equipped with it. Orders have also been received to equip the Saranac, Seneca and Tuscarora of the Lehigh Valley Line, as well as the Mutual Line steamers. This packing will also be installed in the steamers of the Norfolk & Washington Steamship Co.'s fleet plying on the Potomac river and Chesapeake Bay. The illustration accompanying this article shows quite clearly the simple and effective way in which National metallic packing avoids the ordinary troubles incident to the use of packing on engines. This packing is milled from the best grade of charcoal iron, having a

NATIONAL METALLIC PACKING.

square and tangent cut interlocking, doing away with any doll pins. It glazes the rods perfectly and conforms itself to any size of rod. It is guaranteed to be absolutely steam tight under all conditions. It is not necessary to take out the piston rod or to remove the cylinder head to put the packing in. It can be applied in a very few minutes. It saves power by eliminating friction of the rod and its life is represented to be far greater than any packing on the market. In fact the manufacturers guarantee it for three years, but say there is absolutely no question but that the packing will last from ten to fifteen years or the life of the engine. As stated, the construction of the packing is such as to adjust itself to the irregularity of the piston rod. The guide bars or crosshead being out of line does not interfere with the proper working of the packing which remains steam tight under all conditions. It can also be used in the air and steam end of pumps, holding air as well as steam. In fact it can be used in any place where an absolutely steam or air-tight packing is desired.

Mr. E. M. Cook of Oberlin, the inventor of this form of packing, is the president of the company. He has been in the engine business all his life, leaving the Lockwood Manufacturing Co. of East Boston, Mass. to devote his time to developing and marketing his invention. Mr. W. P. Carruthers of Oberlin is the secretary and treasurer of the company. Mr. Eugene Passano is the general marine agent of the company for the great lakes, with headquarters in the Western Reserve building, Cleveland. The company will also be represented in Cleveland by Mr. Fred M. Harmon, chief engineer of the Wilson Transit Co. The agents of the company at Milwaukee will be the Downie & Kruse Co. Thomas B. Banner, 57 E. Kinzie street, Chicago, will act as marine agent at Chicago, while Mr. Cameron, chief engineer of the Tribune building will take care of the stationary trade. From assurances that the company has already received there is no doubt that it will do a successful business.

## SUMMARY OF NAVAL CONSTRUCTION.

The monthly report of the bureau of construction and repair exhibits the following state of progress:

| Name of Vessel. | Building at | Per cent of completion Jan. 1. 1906 | Feb 1. |
|---|---|---|---|
| | BATTLESHIPS. | | |
| Virginia | Newport News S. B. Co... | 98. | 98.6 |
| Nebraska | Moran Bros. Co..... | 84.24 | 86.17 |
| Georgia | Bath Iron Works..... | 91.24 | 93.35 |
| New Jersey | Fore River S. B. Co..... | 95.5 | 96.5 |
| Rhode Island | Fore River S. B. Co..... | 99. | 99.5 |
| Connecticut | Navy Yard, New York.... | 93.69 | 95.16 |
| Louisiana | Newport News S. B. Co... | 94.17 | 95.24 |
| Vermont | Fore River S. B. Co..... | 70.7 | 73.5 |
| Kansas | New York S. B. Co..... | 69.8 | 72.5 |
| Minnesota | Newport News S. B. Co.. | 80.33 | 82.08 |
| Mississippi | Wm. Cramp & Sons..... | 47.32 | 49.08 |
| Idaho | Wm. Cramp & Sons..... | 45.39 | 47.19 |
| New Hampshire | New York S. B. Co..... | 33.4 | 37.1 |
| | ARMORED CRUISERS. | | |
| California | Union Iron Works..... | 87.5 | 88.7 |
| South Dakota | Union Iron Works..... | 86.2 | 87.3 |
| Tennessee | Wm. Cramp & Sons..... | 91.66 | 94.53 |
| Washington | New York S. B. Co..... | 91.9 | 94.4 |
| North Carolina | Newport News S. B. Co.. | 30.74 | 34.48 |
| Montana | Newport News S. B. Co... | 25.84 | 30.11 |
| | PROTECTED CRUISERS. | | |
| St. Louis | Neafie & Levy S. & E. B. Co ..... | 86. | 88.34 |
| Milwaukee | Union Iron Works..... | 87.9 | 89.8 |
| | TRAINING SHIPS. | | |
| Cumberland | Navy Yard, Boston..... | 95. | 95. |
| Intrepid | Navy Yard, Mare Island.. | 97.5 | 97.5 |
| | SCOUT CRUISERS. | | |
| Chester | Bath Iron Works..... | 15.53 | 18.87 |
| Birmingham | Fore River S. B. Co..... | 18.2 | 21.0 |
| Salem | Fore River S. B. Co..... | 17.6 | 21.1 |
| | SUBMARINE TORPEDO BOATS. | | |
| Submarine T. B. No. 9, | Fore River S. B. Co. | 46.9 | 51.0 |
| Submarine T. B. No. 10, | Fore River S. B. Co. | 37.8 | 43.3 |
| Submarine T. B. No. 11, | Fore River S. B. Co. | 39.9 | 43.5 |
| Submarine T. B. No. 12, | Fore River S. B. Co. | 38.7 | 43.1 |

## GRAIN CARGO RECORD.

Tonawanda, Feb. 13.—The largest cargo of grain ever brought down the lakes to Buffalo in one vessel, and in fact the largest cargo of wheat ever afloat on the great lakes, arrived at Buffalo on the big freighter, William A. Rogers, owned by the Niagara Transit Co., of this port. The Rogers steamed into Buffalo last December with 351,621 bushels of wheat, which was more than 1,600 bu. greater than the previous record made by the freighter Wolvin a week before.

T. W. Kennedy, superintendent of the Lake Carriers' Association says that the season of 1905 has been a very successful season along the docks for the grain shovelers. While there have been many seasons when the grain shovelers have kept busier, last year more than came up to the average. The highest salary that any gang made this year was $35 for one week, but that was an exception. The men are paid $2.50 each for every 1,000 bushels unloaded. Of course, no individual records of men were kept. The association divides the amount pro rata among the men.

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## SHIP BUILDING ABROAD.

London, Feb. 4.—The annual return of Lloyds Register of Shipping shows that during 1905, exclusive of warships, 795 vessels of 1,623,168 gross tons, (viz. 737 steamers of 1,604,796 tons, and 58 sailing vessels of 18,372 tons), have been launched in the United Kingdom. The warships launched at both government and private yards amount to 28, of 129,801 tons displacement. The total output of the United Kingdom for the year has, therefore been 823 vessels, of 1,752,969 tons. The output of merchantile tonnage in the United Kingdom during 1905 shows the great increase of 418,000 tons on that of last year, and is the highest on record. The previous record for merchant vessels (1,524,739 tons) was reached in 1901, and the present figures 98,429 tons in excess of that total. As regards war vessels, however, the total for 1905 is 82,160 tons less than in 1901. It may be mentioned that 99.9 per cent of the tonnage launched has been built of steel, and that 98.87 per cent is composed of steam tonnage. After allowing for removals from the register the net increase of United Kingdom tonnage during 1905, is about 469,000 tons. For the previous five years the estimated net increases were as follows: 1900, 220,000 tons; 1901, 543,000 tons; 1902, 643,000 tons; 1903, 405,000 tons; 1904, 420,000 tons. The largest steamers which have been launched during the year 1905 are as follows: Amerika, 22,724 tons gross; Carmania, 19,524 tons gross; Nieuw Amsterdam, 17,100 tons gross; and Empress of Britain 14,500 tons gross.

Of the principal ship building centers of the country, Newcastle-on-Tyne takes the lead, showing an output of 310,391 tons. Then follow in order Sunderland, 305,169 tons; Glasgow, 285,465 tons; Greenock, 230,121 tons; Belfast, 142,541 tons; Middlesboro, 132,748 tons; and Hartlepool, 124,006 tons. In warship tonnage the leading ports stand thus: Barrow, 34,590 tons; Newcastle, 31,038 tons, and Glasgow, 13,550 tons.

The employment of the turbine method of propulsion, to which attention has been drawn, is steadily increasing. During 1905, seven vessels fitted with steam turbines have been launched in the United Kingdom. Their names are as follows: Carmania, 19,524 tons gross; Mahens, 5,000 tons gross; Bingera, 2,092 tons gross; Dieppe 1,216 tons gross; Invicta, 1,680 tons gross; Onward, 1,671 tons gross; Viking, 1,951 tons gross; the last five being channel steamers. In addition to the two large express steamers for the Cunard company, there are at present under construction in the United Kingdom 10 vessels of about 21,400 tons, which are to be fitted with steam turbines.

There have been built outside the United Kingdom during 1905, 525 steamers of 801,705 tons, and 250 sailing vessels of 90,049 tons, in addition to 90 war vessels, of 233,410 tons displacement. These figures show an increase of about 109,000 tons, as regards merchant vessels as compared with those of 1904. This increase which affects the output of most countries, is not, however, shared by the British colonies, nor France, the total tonnage of the former showing a reduction for the year of 20,000 tons. Among foreign countries the three leading places are held by the United States of America, 303,000 tons; Germany, 255,000 tons, and France 73,000 tons.

The total output of war vessels by foreign countries shows a reduction of about 74,000 tons displacement on the figures of the preceding year.

The total mercantile tonnage reported from the United States shows an increase of over 64,000 tons on that of the previous year, which accounts for 58¾ per cent of the total increase in the colonial and foreign output for 1905. The most noticeable feature in the output for the United States is the enormous increase which has taken place in the tonnage built for service on the great lakes, which from an average of 163,000 tons for the years 1901-3 had fallen to 49,000 tons in 1904, and has now reached the record total of over 195,000. This total includes no less than 20 steamers of over 6,000 tons gross, whilst it may be mentioned that only three sea-going steel steamers of between 2,000 and 3,000 tons were launched on the coast.

The largest steamer built in the world during 1905 viz., the Kaiserin Auguste Victoria, of 26,000 tons, has been launched at Stettin. Germany has also launched the largest sailing vessel of the year, viz., the Pamir, 3,020 tons. The total German output is an increase of 53,000 tons on that of 1904.

The total output of the world during 1905, (exclusive of warships) appears to have been 2,514,922 tons, (2,406,501 steam, 108,421 sail). Lloyds Register wreck returns for recent years show that the tonnage of all nationalities totally lost, broken up, etc., in the course of twelve months, amounts to about 725,000 tons. (430,000 steam, 295,000 sail). The net increase of the world's mercantile tonnage during 1905 is thus about 1,790,000 tons. Sailing tonnage has been reduced by 187,000 tons, while steam tonnage has increased by 1,977,000 tons. Compared with the net increase for the world, the net increase of 469,000 tons, as stated above, for the United Kingdom is equivalent to over 26 per cent. In the net increase of the world's steam tonnage, viz., 1,977,000 tons, the United Kingdom has shared to the extent of 592,000 tons, or 30 per cent. Of the tonnage launched during 1905, the United Kingdom has acquired nearly 51 per cent, and of the new steam tonnage over 52½ per cent.

The Cunarder, Caronia, 20,000 tons gross, has arrived at Fiume on her yachting trip from New York. On reaching Gibralter the commander of the Caronia received a testimonial signed by all the passengers on board. The Caronia again left Fiume for New York on Friday, Jan. 26, via Naples, with cabin and 2,000 third-class passengers on board.

An interesting paper on "Trans-Atlantic Lines and Steamships" has just been read before the Liverpool Engineering Society by A. J. Maginnis which outlines the important developments of the last decade. The paper contains the following interesting comparisons of Atlantic liners, including the new Cunarders now being built on the Clyde and Tyne.

| | Lucania. | Oceanic. | Baltic. |
|---|---|---|---|
| Displacement | 20,000 | 26,100 | 33,000 |
| Draught | 30 | 30 | 30 |
| Speed | 22 | 20 | 16½ |
| I. H. P. | 30,000 | 29,000 | 16,000 |
| Pressure | 165 | 192 | 210 |
| Consumption | 485 | 400 | 260 |
| Length (over all) | 620 | 704 | 725 |
| Length B. P. | 598 | 685.7 | 700 |
| Breadth | 65 | 68.3 | 75.6 |
| Depth | 43 | 49 | 49 |
| Gross tonnage | 12,950 | 17,274 | 23,800 |
| H. P. cylinders | 4 of 37 | 2 of 47½ | 2 of 23 |
| I. P. cylinders | 2 of 79 | 2 of 79 | 2 of 47½ |
| Second I. P. | ..... | ..... | 2 of 68½ |
| Second L. P. | 4 of 98 | 4 of 93 | 2 of 98 |
| Stroke | 5.75 | 6 feet | 5.25 |
| No. of boilers | 13 | 16 | 8 |
| No. of furnaces | 102 | 96 | 48 |
| Grate area | 2,200 | 2,183 | 1,014 |
| Heating surface | 82,000 N. D. | 74,000 A. D. | 41,860 |
| Total cost | £615,000 | £739,000 | £800,000 |

| | Kaiser Wilhelm II. | New Cunarders. |
|---|---|---|
| Displacement | 26,000 | 41,500 |
| Draught | 30 | 32 |
| Speed | 23.5 | 25 |
| I. H. P. | 38-40,000 | 60,000 |
| Pressure | 225 | 195 |
| Consumption | 660 | 840 |
| Length (over all) | 706.5 | 785 |
| Length B. P. | 684.3 | 760 |
| Breadth | 72.3 | 88 |
| Depth | 52.6 | 60.5 |
| Gross tonnage | 19,360 | 28,830 |
| H. P. cylinders | 4 of 37.4 | Four Turbines. |
| I. P. cylinders | 4 of 49.2 | |
| Second I. P. | 4 of 74.8 | |
| Second L. P. | 4 of 112.2 | |
| Stroke | 5.8 feet | |
| No. of boilers | 12 double and 7 single | 24 |
| No. of furnaces | 124 | 192 |
| Grate area | 3,121 | 3,954 |
| Heating surface | 107,643 N. D. | 160,000 |
| Total cost | £927,200 | £1,250,000 |

It is reported in marine insurance circles here that a favorable account of the Allan liner Bavarian, which went ashore in October of last year in the St. Lawrence, and

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could not be got off before the ice set in, has been received from the special officers at Quebec. Unless present conditions change they are satisfied that the vessel can be floated when navigation opens. It is satisfactory at least to learn that the vessel has not strained or changed in condition since the salvage operations had to be suspended by the coming of winter.

Of four large armored ships to be included in the navy program for the next financial year the *Glasgow Herald* says only two will, according to present intentions, be ordered from private works. The other two will be laid down in the Royal dockyards. As to the design of these vessels, nothing has yet been decided, and it is probable that they will not be ordered until an advanced date in the year.

There are several reasons for this. The admiralty are anxious to have more experience of turbine machinery. An engineering officer went on the Carmania on her first voyage, another of still higher rank sailed with that vessel on Saturday Jan. 27, for New York, and later there is every likelihood that the Cunard Co. will place at the disposal of the Admiralty all the data available as to the comparative economy of the Carmania and Caronia. The ten coastal destroyers, the first of which has been launched, will be completed by the autumn and exhaustive trials will be made, and as these craft embody all the improvements that experience has suggested in connection with warship turbine propulsion, they will serve the purpose of models for extensive practical experiments. The turbine-driven battleship "Dreadnought" will not be ready for trial for a year, but it may be possible then to modify arrangements for future ships according to the results attained.

## AT THE HEAD OF THE LAKES.

Duluth, Minn., Feb. 12.—There are now more than 17,000,000 bu. of grain in elevators at the head of the lake, 1,000,000 bu. at Washburn, and 10,000,000 bu. at Fort William and Port Arthur. There is no probability that all storage will be filled during the winter, for wheat and other grains are coming in slowly at all points. There is a very large volume of oats in store, more than ever before, nearly 6,000,000 bu. at Duluth-Superior, and 500,000 bu. at Washburn. The flax totals are only half of last year at Duluth-Superior with none at other points. It is likely that grain in store at the three points at the opening of navigation may amount to 36,000,000 bu.

The Nye, Jenks Co., houses are so well filled with coarse grain that they are loading out a considerable quantity. Several ships have been loaded here, and the Aurania took on 241,000 bu. at their Washburn house last Friday. In moving the ship the ice was found to be up to 2 ft. thick.

John H. McLean, formerly of Ironwood, Mich., but now assistant general manager of the Oliver Iron Mining Co., of Duluth, has been made vice president of the Pittsburg Steamship Co., vice L. W. Powell, whose resignation from the former position made the latter also vacant. Mr. McLean was formerly the Oliver company's superintendent on the Gogebic range, with office at Ironwood.

A little ice formed outside Minnesota point on Sunday night, when the thermometer went to 20 below, and there was not a breath of wind. But the field is small and thin and is not likely to remain. It is an even chance, if ice could not form heavily enough to stay under the conditions of Sunday, if it will form at all. Tugs and small craft have been able to travel the lake continuously so far this winter, and the north shore traffic has been very large. This has been a very great help to lumbering and other interests down the shore.

## ITEMS OF GENERAL INTEREST.

The Fraser Hollow Spar & Boat Co., Greenport, N. Y., has a large number of orders for spars.

The Lake Superior Corporation of Sault Ste. Marie has made an agreement to provide water system for the little town of Steelton.

Vernon H. Brown & Co., agents for the Cunard Line, will move from 29 Broadway to the Battery Park Building, 24 State street, New York, on April 1.

Cobb, Butler & Co., Rockland, Me., are to build an auxiliary schooner having a 500 h. p. gasoline engine. She will be 225 ft. long, 44 ft. beam and 25 ft. deep.

The Clyde Line has given contract to Cramp's of Philadelphia, for a steel steamer to be a duplicate of the Onondago and Chippewa, or in other words to be 275 ft. long, 40 ft. beam and 19 ft. deep.

The dock commissioner of New York has been authorized to prepare plans for three ferry boats to cost $200,000 for the 39th street ferry to South Brooklyn. The three boats authorized will be smaller than those now running to Staten Island.

The steamer Jamestown, which is building by the Newport News Ship Building & Dry Dock Co., for the Norfolk & Washington Steamboat Co. will be launched on March 15. This steamer is intended for daylight trips on the Potomac river and Chesapeake bay.

The stockholders of the Detroit & Cleveland Navigation Co., have authorized the directors to increase the capitalization of the company to $2,500,000. This is an increase of $500,000, and is caused by the pending construction of the new sidewheel steamer. The balance of the sum needed to pay for the steamer will be taken out of the surplus.

After Capt. James Reid had succeeded in raising the Manila of the Pittsburg Steamship Co.'s fleet stranded at Encampment island thirty miles from Duluth, he met with an unfortunate setback in that the forward end of the vessel sank in 27 ft. of water. It appears that the forward bulkhead gave way and filled the hold. She will be pulled out and go to Duluth for repairs.

At the annual meeting of the stockholders of the Great Lakes Towing Co., held in Jersey City last week, the following directors were elected: George A. Garretson, Harry Coulby, L. M. Bowers, L. C. Hanna, H. G. Dalton, C. W. Elphicke, Capt. James Ash, R. R. Rhoades, C. E. Grover. James Davidson, A. B. Wolvin, Edward Smith, D. Sullivan, John A. McGean, T. F. Newman and Wm. Livingstone. The change in the directorate is the addition of Wm. Livingstone.

Orlando Kling, commercial agent, P. O. Drawer 1574, Denver, Colo., has issued a circular descriptive of W. F. Merrymen's exhaust respirator. It is a device intended to enable firemen to work in dense smoke and poisonous gases. The device consists of a rubber hood which fits closely over the head and connects with a reservoir containing oxygen. The device is well described in the circular which will be sent to anyone upon request. It would certainly seem to have excellent uses on shipboard in fighting fire in compartments filled with smoke.

The Vinyard Ship Building Co., Milford, Del., recently completed a rather interesting craft for Kliber Bros., Port English, Fla. She is intended to trade with small towns and ports on the Gulf of Mexico, which are inaccessible to the ordinary vessel owing to the limited draught. Combined with this lightness of draught, however, are unusual seagoing qualities as part of her trips are made in the open ocean where she is subject to the force of the elements. On her trial she developed a speed of 12.6 knots an hour under natural draft and proved herself satisfactory in every way. The vessel has been named P. J. Thistlewood.

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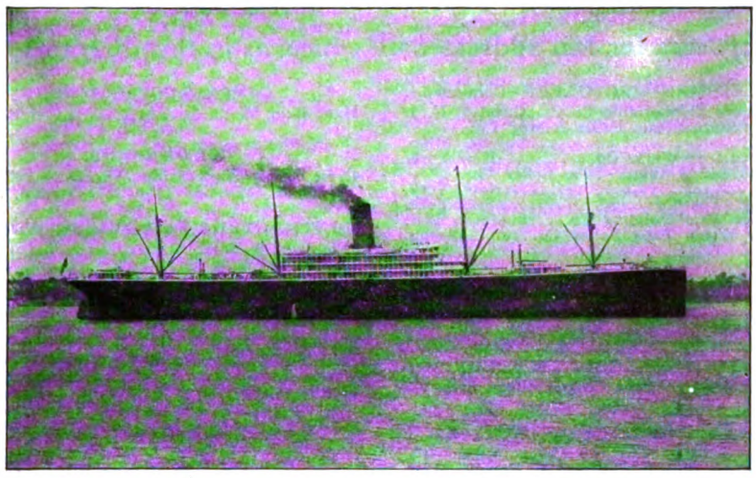
# Hyde Windlasses and Capstans



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# Buyers' Directory of the Marine Trade

**For a more complete classification than that represented by advertisers in the Marine Review, see the BLUE BOOK OF AMERICAN SHIPPING, marine and naval directory of the United States, published by The Marine Review, Cleveland.**

See accompanying index of Advertisers for full addresses of concerns in this directory.

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Great Lakes Engineering Works.....Detroit.
Mietz, Aug. .....New York.

### AIR PORTS, DEAD LIGHTS, ETC.
Marine Mfg. & Supply Co.....New York.

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Great Lakes Engineering Works.....Detroit.

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Cramp, Wm. & Sons.....Philadelphia.

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Detroit Ship Building Co.....Detroit
Great Lakes Engineering Works.....Detroit

### ASH EJECTORS.
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# WANTED and FOR SALE Department.

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PROPOSALS FOR TWO SNAGBOATS.—U. S. Engineer Office, Vicksburg, Miss., Jan. 8, 1906. Sealed proposals, in triplicate, for construction and delivery of two steel snagboats will be received here until 12 noon, standard time, March 10, 1906, and then publicly opened. Information furnished on application. G. M. Hoffman, Capt. Engineers.

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# FOR SALE

Steamers "John C. Gault" and "Russell Sage." Both these boats are Package Freight Boats and were formerly operated by the Lake Erie Transportation Company between Toledo and Buffalo. They always had an easy run and were well taken care of. Their condition and the price I can make you should be of interest if you are in the market for a Package Freight Boat. Write, wire or telephone

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Wanted a small dredge that will work in about three feet of water.

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Fletcher, W. & A. Co.....Hoboken, N. J.
Fore River Shipbuilding Co....Quincy, Mass.
Great Lakes Engineering Works.Detroit, Mich.
Hall Bros. .....Philadelphia.
Lockwood Mfg. Co.....East Boston, Mass.
Maryland Steel Co.....Sparrows Point, Md.
Mietz, Aug.....New York.
Milwaukee Dry Dock Co.....Milwaukee.
Mosher, Chas. D.....New York.
Moulton Steering Engine Co.....New York.
Newport News Ship Building Co.....
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New York Shipbuilding Co....Camden, N. J.
Northwestern Steam Boiler & Mfg. Co...
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Quintard Iron Works Co.....New York.
Roach's Ship Yard.....Chester, Pa.
Sheriffs Mfg. Co.....Milwaukee.
Superior Ship Building Co....Superior, Wis.
Thropp, J. E. & Sons Co.....Trenton, N. J.
Trout, H. G.....Buffalo.

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Marine Mfg. Supply Co.....New York.

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Lunkenheimer Co. .....Cincinnati.
Northwestern Steam Boiler & Mfg. Co...
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Kidd, Joseph.....Duluth, Minn.
Mosher, Chas. D.....New York.
Nacey, James .....Cleveland.
Roelker, H. B. .....New York.
Wood, W. J. .....Chicago.

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Greacen-Derby Engineering Co.....
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Safety Fire Extinguisher Co.....New York.

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Macbeth Iron Co.....Cleveland.

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Pickands, Mather & Co.....Cleveland.
Pittsburg Coal Co.....Cleveland.
Smith, Stanley B., & Co.....Detroit.
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Continental Iron Works.....New York.

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Lunkenheimer Co. .....Cincinnati, O.

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### WATER GAUGES.

Bonner Co., Wm. T.....Boston.
Lunkenheimer Co.....Cincinnati, O.

### WATERTIGHT BULKHEAD DOORS.

"Long Arm" System Co.....Cleveland.

### WHISTLES, STEAM.

Lunkenheimer Co..... Cincinnati.

### WILFORD'S WATERPROOF CLOTH.

Bunker, E. A. .....New York.

### WIRE ROPE AND WIRE ROPE FITTINGS.

Baker, H. H. & Co.....Buffalo.
Upson-Walton Co.....Cleveland.

### WINDLASSES.

American Ship Windlass Co..Providence, R. I.
American Ship Building Co.....Cleveland.
Hyde Windlass Co.....Bath, Me.
Marine Mfg. & Supply Co.....New York.

### WINCHES.

American Ship Windlass Co..Providence, R. I.
Georgian Bay Engineering Works..... .....Midland, Ont.
Hyde Windlass Co.....Bath, Me.

### WOOD WORKING MACHINERY.

Atlantic Works, Inc.....Philadelphia.

### WRECKING AND SALVAGE COMPANIES.

Donnelly Salvage & Wrecking Co..... .....Kingston, Ont.
Great Lakes Towing Co.....Cleveland.
Parker Bros. Co., Ltd.....Detroit.

### YACHT AND BOAT BUILDERS.

Drein, Thos. & Son.....Wilmington, Del.
Manitowoc Dry Dock Co.....Manitowoc, Wis.
Truscott Boat Mfg. Co.....St. Joseph, Mich.

### YAWLS.

Drein, Thos. & Son.....Wilmington, Del.

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